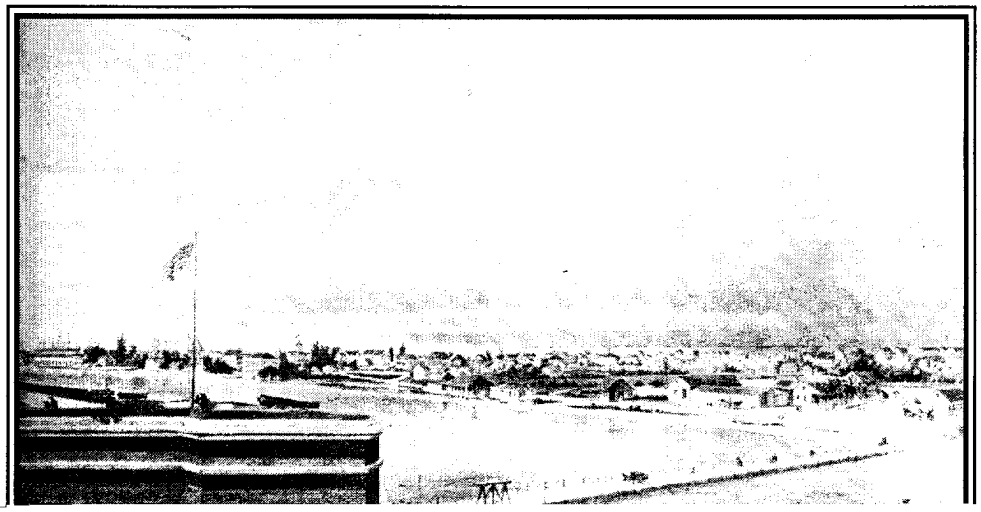
COESAM/PDER-97-001

ARCHAEOLOGICAL SURVEY OF KEY WEST NAVAL AIR STATION MONROE COUNTY, FLORIDA

Submitted to:
U.S. Army Corps of
Engineers, Mobile District
Contract Number DACW01-94-D-0010
Delivery Order Number 0011



DISCLAIMER NOTICE

QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

REPORT DOCUMENTATION PAGE

Form Approved

OMB No. 0704-0188

ABSTRACT

This study project is designed to identify, locate, and evaluate all prehistoric and historic archaeological sites within the boundaries of all government fee-owned lands at Naval Air Station, Key West, Monroe County, Florida. This project is designed for Section 110 compliance, and to provide management information for revision of a Historical and Archaeological Resources Protection (HARP) plan.

Areas surveyed were the Main Facilities at Boca Chica Field (Boca Chica Key), the Naval Communications Station (Saddlebunch Key), three Hawk Missile Sites (Key West, Boca Chica Key, and Geiger Key), Truman Annex (Key West), Poinciana Housing (Key West), White Street Trailer Park (Key West), International Missile Battery (Key West), and the East Battery (Key West). Archaeological potential for these areas range from very low to extremely high.

Other areas considered were Trumbo Point Annex, Fleming Key, Sigsbee Park Annex, and Peary Court. Trumbo Point, Fleming Key, and Sigsbee Park Annex consist of dredge spoil created in the late 1940s to 1960s. The Florida SHPO agreed that no archaeological survey of these areas are necessary and they were excluded from the project scope. Previous archaeological investigations were conducted at Peary Court by Mobile District, Army Corps of Engineers staff archaeologists in 1991. The Peary Court investigations identified a nineteenth century military cemetery previously thought moved. The cemetery was preserved in place, and no further archaeological investigations were suggested for Peary Court.

Archaeological sites located during the survey, as well as previously recorded sites, were evaluated in terms of eligibility for the National Register of Historic Places (NRHP). The archaeological survey followed appropriate Florida guidelines as developed by the Florida State Historic Preservation Office. In general, site location methods consisted of excavation of shovel tests and 50 by 50 cm units, as well as backhoe trenching in locations which were judged to have potential for containing deeply buried archaeological deposits.

Several previously recorded sites on Boca Chica Key (8MO3, 8MO1267, 8MO1268) were found to no longer exist, or have been mislocated on site files maps. Management recommendations are given for underwater site 8MO1448, a sixteenth century Spanish shipwreck. 8MO1448 was not investigated during the current project. Sites 8MO1477 and 8MO1478 on Boca Chica Key were identified during the survey. On Key West, Site 8MO206 (Fort Taylor) site boundaries were expanded to incorporate subsurface archaeological deposits within the NAS property.

TABLE OF CONTENTS

LIST OF FIGURES

List of Figures, contd.

List of Tables

I. INTRODUCTION

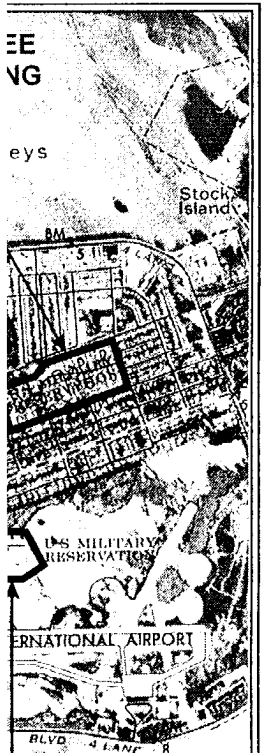
This study project is designed to identify, locate, and evaluate all prehistoric and historic archaeological sites within the boundaries of all government fee-owned lands at Naval Air Station, Key West, Monroe County, Florida. This project is designed for Section 110 compliance, and to provide management information for revision of a Historical and Archaeological Resources Protection (HARP) plan.

Areas surveyed were the Main Facilities at Boca Chica Field (Boca Chica Key), the Naval Communications Station (Saddlebunch Key), three Hawk Missile Sites (Key West, Boca Chica Key, and Geiger Key), Truman Annex (Key West), Poinciana Housing (Key West), White Street Trailer Park (Key West), International Missile Battery (Key West), and the East Battery (Key West). Archaeological potential for these areas range from very low to extremely high. Figures 1-3 show the general and specific project area location(s).

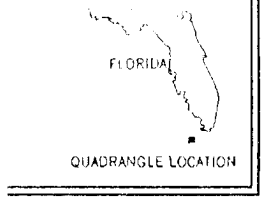
Other areas considered were Trumbo Point Annex, Fleming Key, Sigsbee Park Annex, and Peary Court. Trumbo Point, Fleming Key, and Sigsbee Park Annex consist of dredge spoil created in the late 1940s to 1960s. The Florida SHPO agreed that no archaeological survey of these areas are necessary and they were excluded from the project scope. Previous archaeological investigations were conducted at Peary Court by Mobile District, Army Corps of Engineers staff archaeologists in 1991 (USCOE, Mobile District 1991). No intact archaeological deposits were identified at Peary Court and no archaeological site numbers were assigned. However, a nineteenth century military cemetery (previously thought moved) was investigated and found to contain intact human remains. The Mobile District recommended that the cemetery be preserved in place, and a Memorandum of Agreement (MOA) was made between the Navy and the Florida State Historic Preservation Office (SHPO) outlining cemetery preservation and maintenance needs.

EE
NG

eys

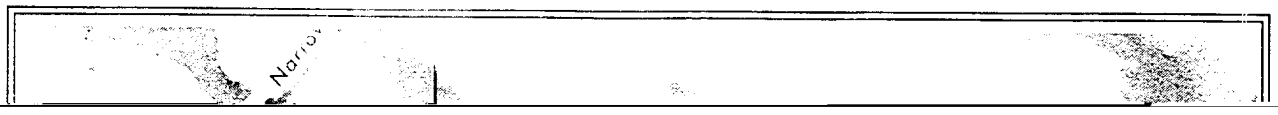


NATIONAL
ORT SITE



QUADRANGLE LOCATION

KEY
SSILE SITE
FLORIDA
QUADRANGLE LOCATION



The present comprehensive archaeological survey identified and evaluated eight sites and archaeologically sensitive areas (Table 1). Archaeological sites located during the survey, as well as previously recorded sites, were evaluated in terms of eligibility for the National Register of Historic Places (NRHP). The archaeological survey followed appropriate Florida guidelines as developed by the Florida State Historic Preservation Office. In general, site location methods consisted of excavation of shovel tests and 50 by 50 cm units, as well as backhoe trenching in locations which were judged to have potential for containing deeply buried archaeological deposits.

Table 1. Archaeological Resources Within Naval Air Station Key West.

Site	Location	NRHP Evaluation	Recommendation
8MO3	Boca Chica Key	No longer exists	No further management
8MO206	Key West- Truman Annex	Previously listed under Criterion A, Potentially eligible under Criterion D	Preservation in place
8MO1267	Boca Chica Key	No longer exists	No further management
8MO1268	Boca Chica Key	Does not exist in recorded location	No further management
8MO1448	Boca Chica channel	Underwater site, not evaluated	Site location ascertain, Phase 2 testing evaluation
8MO1477	Boca Chica Key	Potentially eligible	Phase 2 testing evaluation
8MO1478	Boca Chica Key	Eligible	Preservation in place
Antenna Field	Key West- Truman Annex	Hazardous waste disposal area, not evaluated	Archaeological monitoring

Chapter II of this report is an environmental and cultural overview for the region. Chapter III reviews the methods utilized in the archival research, field survey, and site identification and evaluation. Area specific methodologies and the survey results are presented in Chapter IV. Management recommendations for additional archaeological investigations are given in Chapter V. The artifact catalog is given in Appendix A.

II. ENVIRONMENTAL AND CULTURAL BACKGROUND

ENVIRONMENTAL SETTING

The Florida Keys are a 130 mile long island chain which terminates at Key West. The Keys can be separated into three physiographic provinces consisting of the High Coral Keys (Upper Keys) and Low Coral Keys (Middle Keys) to the north, and the Oolite Keys (Lower Keys) to the south (White 1970; Craighead 1971). The Lower Keys, where the study area is located, are comprised of a formerly submerged oolite bank (Glasgow 1995). The boundary between the coral keys and the oolite keys is between Upper Matecumbe Key and Lower Matecumbe Key. This oolite bank is known as the Miami Oolite formation.

The highest elevation in the Keys is 16 feet above mean sea level (Glasgow 1995). The lowest elevation is below sea level. The soils of the Lower Keys are typically thin (often 10 cm or less) and are comprised of weathered coral or Miami oolitic limestone, shell, and organic matter. Freshwater lenses often occur in the oolite formation and can be reached by shallow wells. In some areas, former solution holes have filled in with organic material, resulting in fairly deep soil deposits.

The climate of the Lower Keys is tropical, with long, hot and humid summers which are usually cooled by sea breezes (Glasgow 1995). The average summer temperature is 84 degrees F., while the average winter temperature is 70 degrees F. Rainfall occurs throughout the year; average annual precipitation is 40.09 inches. On average, thunderstorms occur about 74 times a year, and a hurricane crosses the area every three years.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Few modern archaeological investigations have been conducted in the Lower Florida Keys. John Goggin was the first to record archaeological sites in the Lower Keys. Between 1944 and 1948, he recorded sites on Key West, Stock Island, Ramrod Key, Cudjoe Key, Sugarloaf Key, and Big Pine Key. Goggin and Sommer excavated Site 8MO17 at Upper Matecumbe Key in 1944 (Goggin and Sommer 1949). Information from this site was the basis from which he refined the Glades culture area in South Florida (Goggin 1947). Goggin identified three subculture areas in southern Florida. Southeastern Florida and the Keys were defined as the "Tekesta" area (Carr and Fay 1990). Since the 1940s, a number of archaeologists have made revisions to these early culture definitions.

Other professional archaeological investigations include Felton and Tesar's (1968) unpublished survey of the Lower Keys. A limited archaeological survey of Key West was performed in 1979 for the Historic Key West Preservation Board of Trustees (Nolan et al. 1979). In 1991, U.S. Army Corps of Engineers, Mobile District staff archaeologists conducted archaeological investigations at Peary Court. These investigations were completed in anticipation of a new housing project in that area. No intact archaeological deposits were identified at Peary Court and no archaeological site numbers were assigned. However, a nineteenth century military cemetery (previously thought moved) was investigated and found to contain intact human remains. The cemetery was preserved in place and is maintained by the U.S. Navy.

In 1996, Mobile District Army Corps of Engineers staff archaeologists conducted cultural resource investigations at the U.S. Naval Branch Medical Clinic in Key West (USCOE, Mobile District 1996). No archeological sites were encountered, although a number of historic buildings were identified and recommended NRHP eligible.

Since Goggin, however, most archaeological investigations in the Lower Keys have been performed by avocational archaeologists. In particular, Bill Fournier of Sugarloaf Key excavated a number of significant sites between the 1940s and the 1960s (Carr and Fay 1990:10). The majority of his notes were reportedly destroyed after his death, and his artifact collections were subsequently dispersed to unknown locations (Carr and Fay 1990).

Eyster's (1986) survey of Planter, a nineteenth century pioneer Key settlement, was the first professional archaeological investigation of historic sites in the Lower Keys. In 1968, Naval Station architect and avocational archaeologist Howard England excavated the lower tier of Fort Taylor at Key West. England discovered substantial amounts of Civil War cannon and ordnance which were buried during the Spanish-American War (England and Barron 1977).

The most comprehensive professional study including the project area is Bob Carr and Patricia Fay's (1990) archaeological survey of the Lower Keys. The island of Key West was not included in this study. The project involved review of previous work and individual site visits; systematic archaeological survey was not a component of this investigation. Subsequent revisions to Goggin's (1947) Glades culture area were incorporated in Griffin's (1989) archaeological synthesis for South Florida. This synthesis is considered the best and most comprehensive work to date on the Keys (Carr and Fay 1990). Griffin selects the term Everglades Area for southeast Florida, including the Everglades and the Florida Keys. The following discussion of Keys prehistory is largely drawn from Griffin (1989) and Carr and Fay (1990).

PREHISTORIC CONTEXT

Paleoindian Period (12,000 to 8500 BC)

The earliest presence of man in the Florida peninsula occurred in the Paleoindian Period. This cultural period corresponds with the terminal Pleistocene, when the climate was generally much colder than today, and when sea level ranged from 100 to 300 feet below present levels (Fairbridge 1974). Delcourt and Delcourt (1981) hypothesize that southern Florida was covered

with scrub vegetation in the early Paleoindian Period, but was gradually replaced with an oak savannah beginning about 12,000 BC (Carr and Fay 1990). Another notable feature of the terminal Pleistocene was the presence of large mammalian species (i.e., megafauna).

The pattern of human adaptation for this period has been reconstructed from deposits from other areas of the country and from distributional data on diagnostic fluted projectile points found in the Southeast (Anderson 1990a). While many Paleoindian sites have been excavated in the Southeast (Anderson 1990b), few Paleoindian remains have been identified in Florida. Most of the Paleoindian evidence from South Florida have been from a Late Paleo to Early Archaic site at Cutler in Dade County (Carr 1986; Carr and Fay 1990). Other evidence has been recorded in southwestern Florida, at Little Salt Spring (Clausen et. al 1979) and Warm Mineral Springs (Cockrell and Murphy 1978).

Cockrell and Murphy (1978) present a locational model for early man in which many Paleoindian sites are now submerged off the Florida coastline. The Florida peninsula would have been much larger during the terminal Pleistocene because of the lower sea level. Cockrell and Murphy suggest that Paleoindians utilized resources along the Late Pleistocene shores and these sites were subsequently inundated during the Early Holocene Period. If the pattern from other

Few Early Archaic sites have been identified in South Florida and little is known about the period at present. By 7000 BC oak-hickory hardwood forests and cypress swamps characteristic of present day Florida began to develop (Carbone 1983; Delcourt and Delcourt 1981; Carr and Fay 1990). Large horseshoe-shaped shell middens were formed throughout Florida in the Middle Archaic (7000 to 6000 BC). The beginning of the Late Archaic Period is marked by the introduction of fiber tempered pottery. Fiber tempered pottery has been recovered on the southeastern Florida coast from several sites (Cockrell 1970; Carr 1981; Carr and Fay 1990).

Glades Period (500 BC to 1500 AD)

Goggin (1947) defined the Glades I, II, and III periods based on decorated pottery types. These divisions are still considered valid and useful in southern Florida (Carr and Fay 1990). The early Glades I Period (500 BC to AD 200) is marked by use of undecorated sand tempered pottery. Later in the Glades I Period (AD 200 to 750) the Fort Drum decorated series was introduced and became increasingly popular (Carr and Fay 1990).

The Glades II Period (AD 750 to 1200) is marked with the use of decorated sand tempered pottery styles (Key Largo Incised, Miami Incised, and Sanibel Incised). The Glades II Period can be accurately divided into three subperiods based on the relative frequency of these pottery styles (Carr and Fay 1990). Burial mounds became increasingly common during this period.

In extreme southern Florida, the Glades III Period (AD 1200 to 1500) is marked by profound changes in ceramic decorations and vessel shape. Griffin (1989) reports a near absence of decorated pottery and increased occurrences of St. Johns tradeware along the eastern coast (Carr and Fay 1990). There is also increasing use of exotic trade resources, such as lithic tools and ornaments. It has been speculated that the Arawaks arrived in southern Florida from Cuba or the Bahamas about AD 1200 to 1500 (Carr and Fay 1990).

HISTORIC OVERVIEW

Spanish Exploration (1492-1763)

Christopher Columbus' 1492 expedition crew were probably the first Europeans to view the southernmost Keys. While sailing from the Bahamas in search of Cuba, Columbus made reference to small islands [redacted]

[redacted]

(Windhorn and Langley 1974:9). In 1498, Sebastian Cabot discovered the Florida mainland and the northern Keys. The first European explorer to land at Key [redacted]

had little real impact on the islands, however, and the small community of Bahamian wreckers and pirates continued to operate from Key West. No attempt was made to remove the Bahamians, and few Spaniards moved to the Keys.

No one legally owned Key West until the Spanish governor of Florida, Don Juan de Estrada, granted the island of Cayo Hueso to Juan Pablo Salas on August 26, 1815. Salas was granted Key West for:

> consideration of the several services rendered by him at different times, much in
>
> [redacted]
>
> services rendered voluntarily and without pay at the office of the secretary under your administration (Browne 1973:7).

Salas, still a soldier and traveling the Caribbean, did nothing with Key West. In 1819, the United States established a territorial government for north Florida. Salas knew Spain's claim to Florida and the Keys was weak and was about to be transferred to the United States. Fearing he would eventually lose his ownership of "Cayo Hueso," Salsa sold the island in 1822 to John W. Simonton of Mobile while they were drinking in a Havana bar (Browne 1973).

Simonton immediately sold one undivided quarter of his interest to John Warner and John

United States Settlement (1821-1860)

Lieutenant M.C. Perry, commander of the United States schooner *Shark*, was ordered to visit the island and take possession of it as part of the territory ceded by Spain (Browne 1973:9). On March 25, 1822 a few pioneer families from St. Augustine and South Carolina gathered to view the hoisting of the United States flag over the island. At first, it was named "Thompson's Island" (for the Secretary of the Navy, Smith Thompson), but "Key West" soon emerged as the island's popular and lasting name. All settlers were welcomed by the island's proprietors, who sold them building lots on the western end of the island (Figure 5).

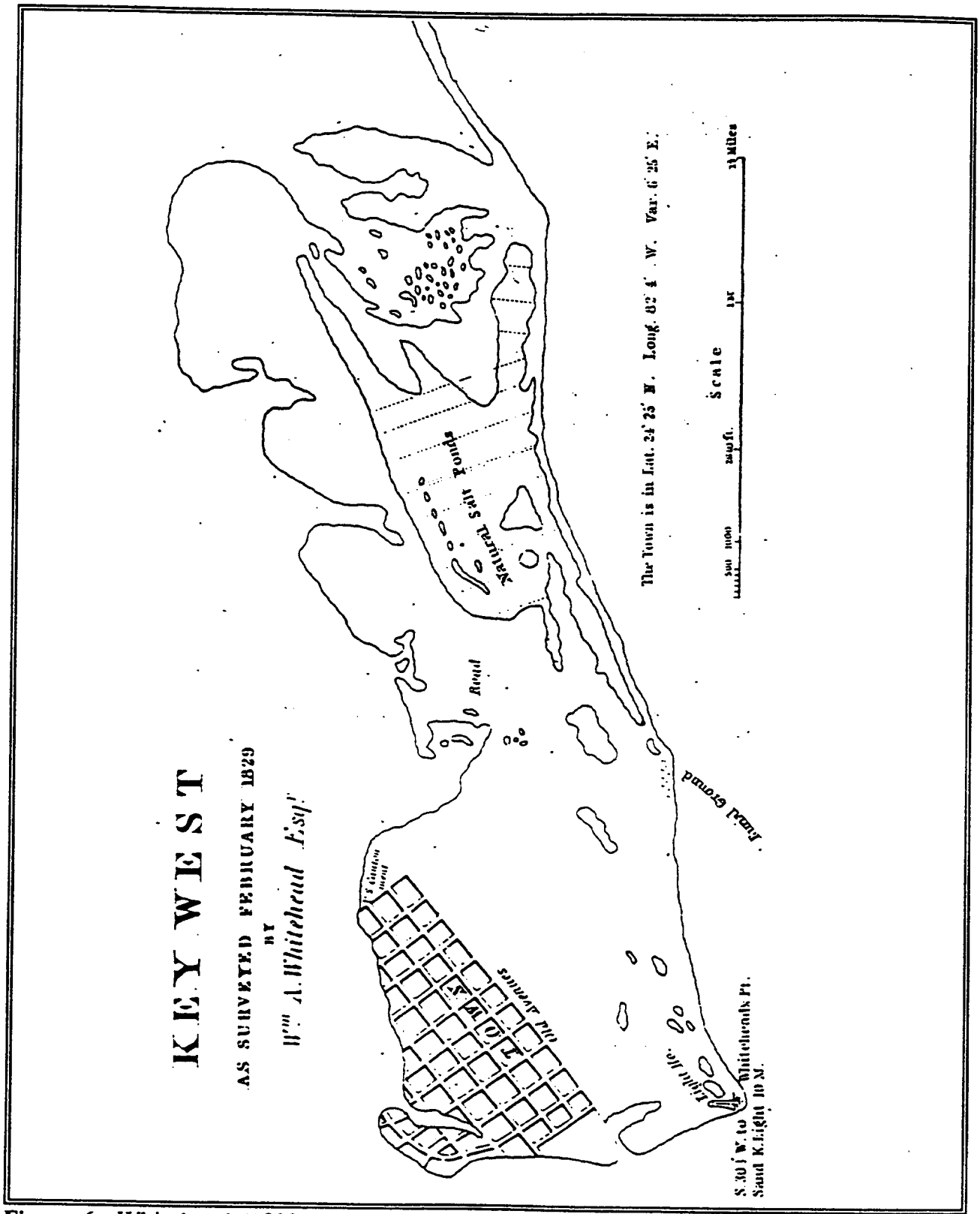


Figure 6. Whitehead (1829) Key West Map.

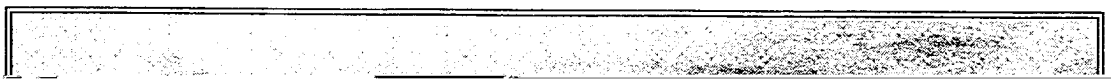
hurricane, the City purchased and began the present City Cemetery, which lies northeast of Passover and Windsor Lane (Browne 1973:48). A new lighthouse was constructed immediately after the 1846 hurricane at the corner of present day Whitehead Street and Truman Avenue.

The population of Key West, as well as its physical size, grew slowly but steadily during the period preceding the Civil War. The early settlers built on the ridge along the gulf (northern) side of the island (Figure 7). A large swamp/lagoon, known as "the pond" was situated behind the ridge (Figure 8). The pond extended from the southwestern point of the island past Whitehead Street, where in 1838 it spread to about two acres (Browne 1973:10). The depth of the pond fluctuated with the tides, and authorities restricted its filling, fearing that it would cause other parts of the city to flood. The 1846 hurricane partially filled the pond with sand, however. Seeing none of the consequences which had been perceived, an ordinance was passed in 1853 which required all submerged lot owners to fill them up.

Most of the newcomers to Key West and the other Keys in the pioneer period were Anglo-Americans from other islands and coastal areas. Some Cuban fishermen also permanently resided in Key West while maintaining dual United States/Spanish citizenships. Many others were sailors or ex-sailors from various countries. A brief sketch of Key West, written in 1831, stated:

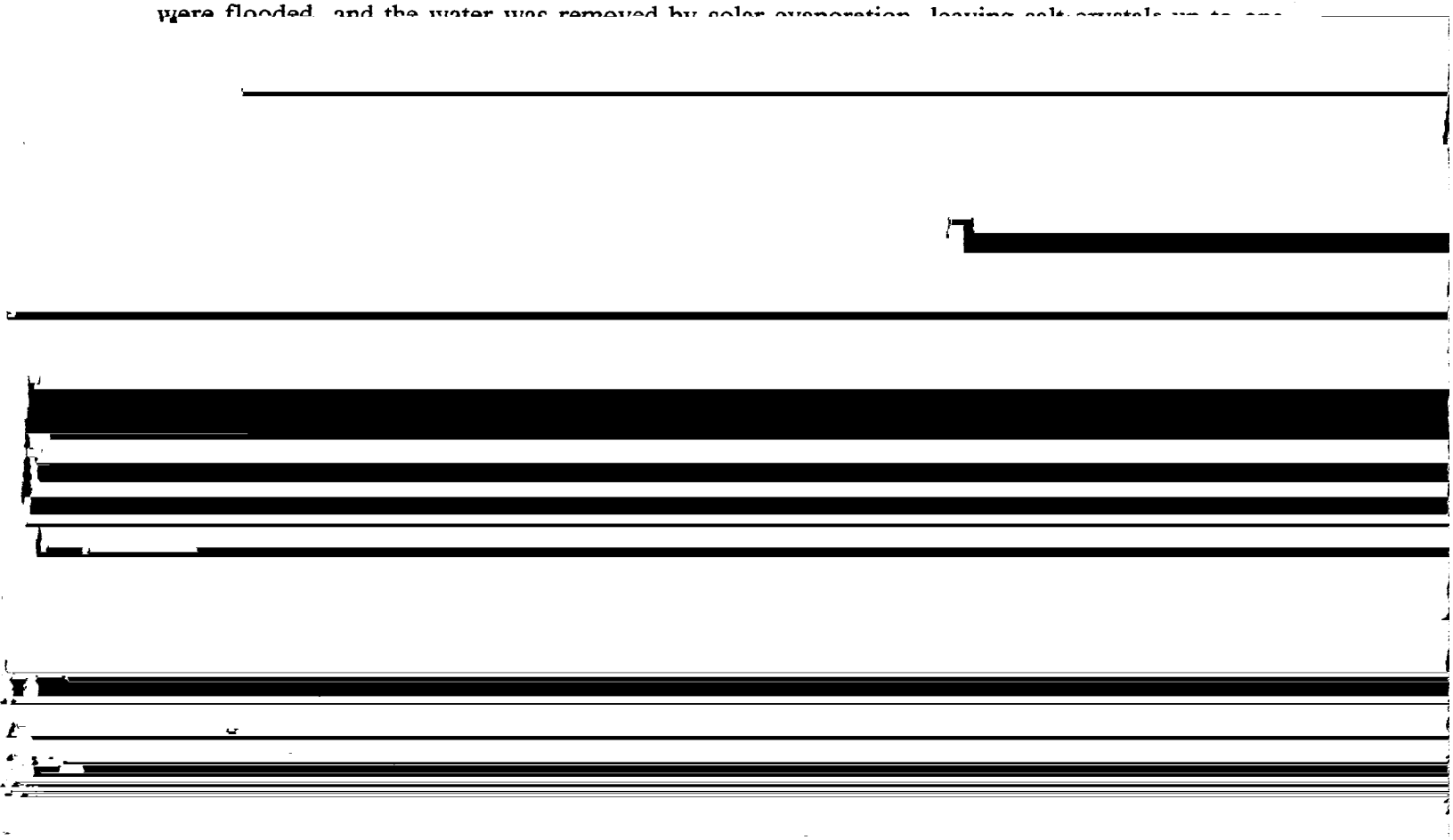
> The island was originally settled by persons from almost every country and speaking almost every variety of language, they brought with them their habits, manners, views and feelings, formed in different schools and in many instances totally dissimilar and contradictory. Some were attracted by considerations of interest alone, and for a long time, in consequence of there being no court or modes of legal restraint, they had no rules of conduct for their guide, except such as their own views of what would conduce to the attainment of their own wishes afforded (Browne 1973:14).

Besides fishing, the new citizens of Key West were involved in numerous economic enterprises, including wrecking, salt manufacturing, cigar making, and sponging. The settlement at Key West grew rapidly during the late 1820s. Because of the wrecking business and other various lucrative



economic enterprises in which they were engaged, Key West residents had the highest per capita income of any Southern city in 1833 (Nichols 1989).

One significant antebellum industry was salt production. Robert Fitzpatrick, a South Carolinian, began a salt manufacturing business at Key West in 1830. He engineered a number of dikes which allowed controlled flooding of flat ponds on the interior of the island. Wooden pans were flooded, and the water was removed by solar evaporation, leaving salt crystals up to one



quarter inch in size (Nichols 1989). The process was repeated until just before the rainy season. The salt was shoveled into bags and primarily shipped to fish houses in the Carolinas and Virginia. Fitzpatrick went out of business in 1834.

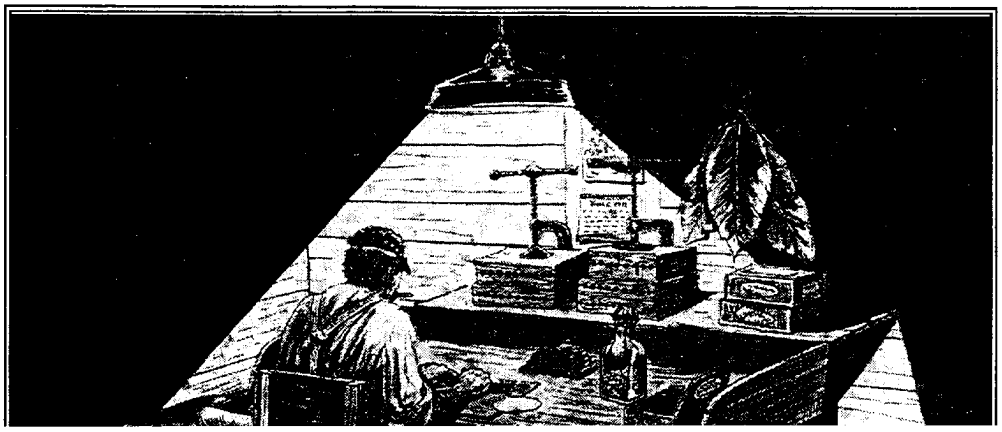
Beginning in 1835, the Key West salt making enterprise was run by John Simonton and the La Fayette Salt Company. The company's stockholders were primarily Mobile and New Orleans residents. Under Simonton, slave labor was used to make the salt manufacturing facility profitable. Between 40,000 and 75,000 bushels of salt were produced each year until 1861 (Browne 1973:113).

In 1831, William H. Wall established the first cigar factory at Key West (Browne

area. A two man crew would man each skiff; the "rower" would row or pole the boat along, guided by the "hooker" who would grab the sponges using a three pronged hook (Figure 10).

More Bahamians emigrated to Key West after United States ownership than had during the English and Spanish control of the island. Many were the sons and daughters of Loyalists who had fled to the nearest Crown soil after the Revolution. As the Anglo-Bahamians became naturalized to the Keys, they became known as "Conchs." Stews and fritters made from tough conch meat was a diet staple of these English descendants.

The Bahamians/Conchs chief source of income was wreck salvaging (Figure 11). Prior to



would permit him to hunt and kill Seminoles at $200 each (Windhorn and Langley 1974:24). After he learned of Houseman's plans, Seminole Chief Chekika planned an attack on Indian Key while the Mosquito Fleet was away. The Seminoles attacked August 7, 1840 and burned all the buildings except one; 10 slaves and six whites were killed (Windhorn and Langley 1974). After the attack, the community at Indian Key was abandoned. No other significant military action occurred in the Florida Keys during the Seminole War.

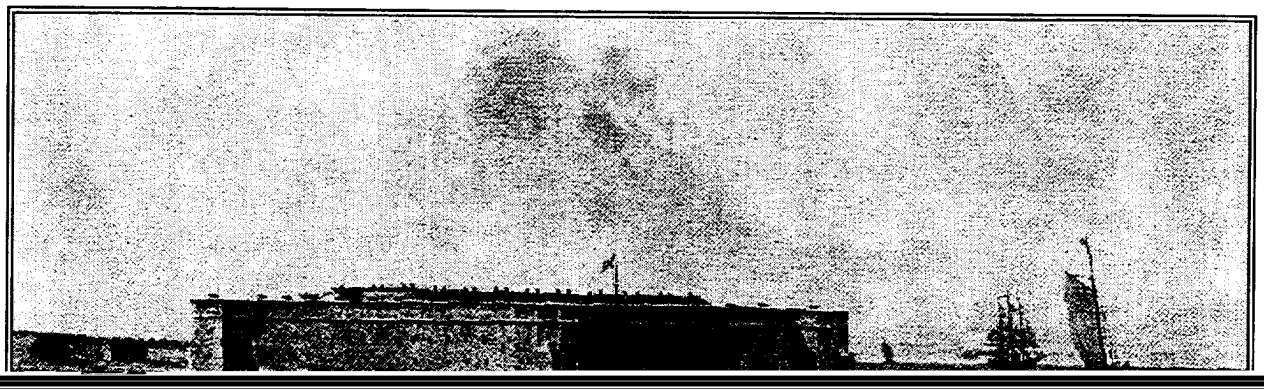
To protect the naval base and harbor at Key West, the United States stationed a company of Marines between Duval and Whitehead Streets in 1824. They remained until 1831, when two companies of Army infantry were stationed in a temporary encampment at North Beach (Browne 1973:77). The proprietors of Key West set aside a tract for army use, consisting of squares 52, 53, 54, and parts of squares 28, and 29. Some additional lots were also later deeded to the United States government. In 1836, Company B, 4th United States Infantry, was stationed at Key West. Company B was stationed in temporary quarters until 1844, when permanent barracks were constructed. In all, two large soldier's barracks, six officers quarters buildings, and a guardhouse were erected.

The need for a substantial fortification at Key West was recognized, and a large fort was begun in 1845 on a sand spit about a quarter of a mile from the western tip of the island (Browne 1973:78). The three tiered brick fort was named Fort Zachary Taylor, and boasted four bastions and curtain walls (Figure 12). In 1860, its armament consisted of 50 8-inch Columbiads, ten 24-pounder howitzers, and four 12-pounder field howitzers. Fort Taylor was completed in early 1860, just before the beginning of the Civil War.

Civil War (1861-1865)

At the beginning of the Civil War, most Key West residents were Southerners or Southern sympathizers. Most favored dissolution with the Union and Secession. Captain James M. Brannan, of the First United States Artillery, applied to the adjutant general in Washington D.C.

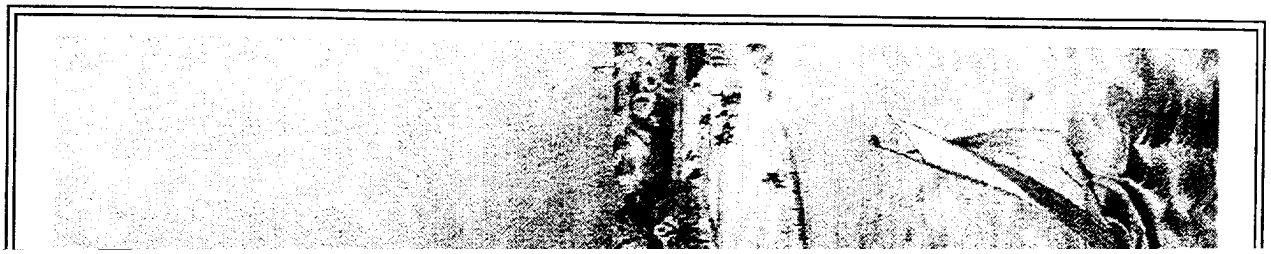
on December 11, 1860 for instructions whether he should "endeavor at all hazards to prevent Fort Taylor from being taken or allow the State authorities to have possession without any resistance on the part of the command" (Browne 1973:91). When Florida seceded on the 13th of January, 1861, Captain E.B. Hunt of the Engineers Corps on duty at Fort Taylor, requested that Captain Brannan assume command of the fort (Browne 1973). That night, Captain Brannan marched his command from the barracks and garrisoned Fort Taylor.

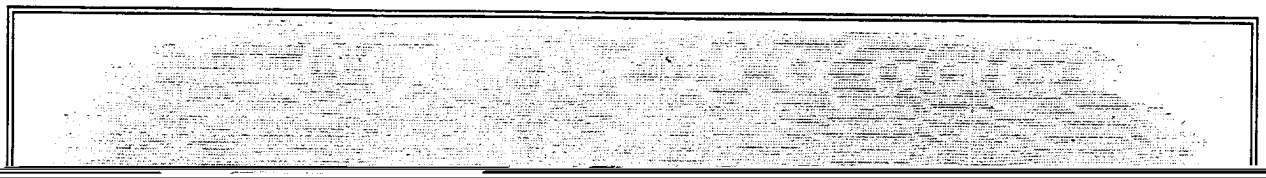


1982:21). During the war, salt manufacturing was suspended by the United States authorities. The South experienced a critical salt shortage, and Federal officials were fearful that the salt would make its way to Southern ports. The Federal garrison insured that no salt was manufactured for the remainder of the war.

Recognizing that Fort Taylor was still vulnerable from the southern side of the island and subsequent land attack, Federal authorities ordered the construction of a sand coverface on the landward side of the fort in January 1862. The beginning work on the coverface can be seen in a wartime drawing of the fort (Figure 13). An internal woodframe which supported the rock foundation is shown parallel to the landward side fort wall. Construction of the sand coverface ceased in 1866, when it was about 80 percent complete.

Additional precautions included construction of two Martello batteries (Garnett 1953:12). Both were built on the southern side; one was located on the southeastern end of the island, and the other about two miles nearer town (Figure 14). Martello batteries were specially designed brick fortifications consisting of a heavy gun battery atop a strong tower, which was also surrounded heavy brick walls. Like the ones at Key West, these batteries usually supported a primary fortification. Martello batteries were named after a Spanish military engineer, Martella who first designed and built one on the island of Corsica. British attempts to capture the battery at Corsica had repeatedly failed, and British and European observers were very impressed with the [redacted]





Late Pioneer Period (1866-1900)

Unlike most of the South, the Civil War caused few changes to the economy of the Florida Keys. Isolated by geography, the Florida Keys and Key West continued on a unique developmental history. The most significant direct impact of the Civil War was the demise of salt manufacturing at Key West. No other economic enterprises in the Keys had been dependent on slave labor. After the Civil War, no further attempt was made to make salt until 1871. Without slave labor, the average output of the salt works fell from about sixty to seventy thousand bushels to about fifteen to twenty-five thousand bushels (Browne 1973). The salt pans were significantly damaged by a hurricane in 1876. It was not considered economically feasible to [redacted]

more efforts were ever made to manufacture salt at Key West.

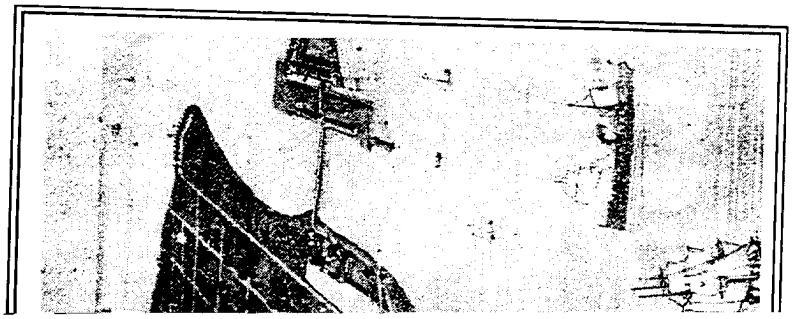
A few families began to settle other Keys in the decades after the Civil War. Outside of Key West, the most significant settlements were at Key Largo and Indian Key. The individuals that resided in these areas were mostly fishermen, although some attempted dairying and stock raising. The livestock ventures were not successful, primarily because of poor forage, and the mosquitoes and flies weakened the animals so much that many died (Windhorn and Langley 1974:30). In fact, the insect nuisance was one of the primary factors which kept the Keys from becoming more populated. One resident complained that at times the "mosquitoes would blacken the side of the house" and they "had to keep smudge pots burning outside and people's eyes were always red and inflamed" (Windhorn and Langley 1974).

None of the dramatic social changes which were prevalent throughout most of the postbellum South occurred in the Florida Keys. Because of its geographic position, Key West remained a Naval base of intermittent importance. Even though wrecking declined, a number of industries that had begun before the Civil War became even more significant in the postbellum period. Cigar making, sponging, turtling, and fishing flourished in Key West during the post-war period.

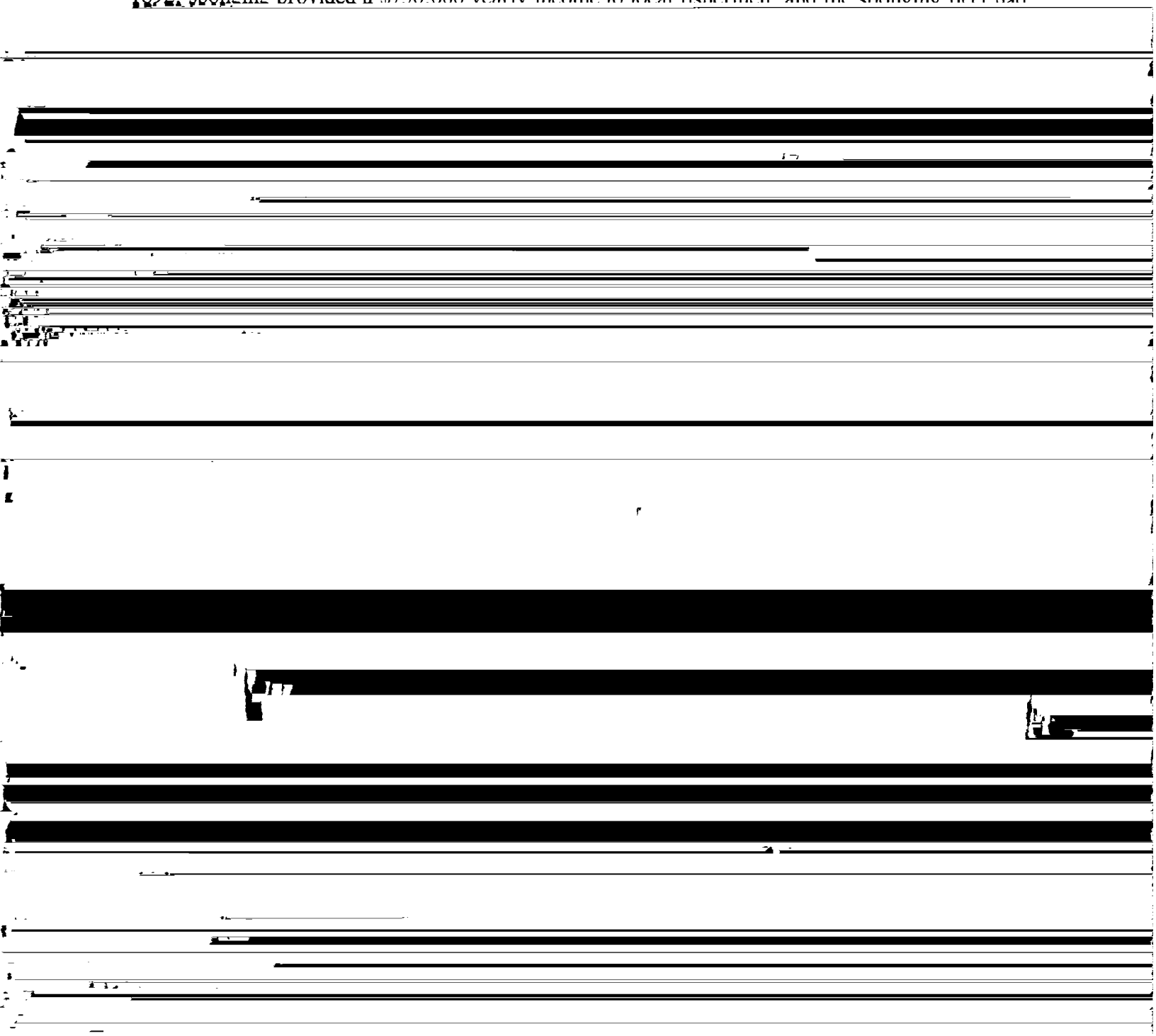
early 1870s include those of George W. Nichols, the Ferdinand Hirsch Company, the Cortez Cigar Company, the Havana-American Company, and the Ruy Lopez Company.

In several years, Cubans constituted a significant percentage of the Key West population (Langley and Langley 1982:23). Many of the cigar workers had been persecuted in Cuba because of their commitment to the independence movement. Key West became a conspiratorial center for the planned Cuban revolution. Tension between Spain and the United States escalated in 1872 when Spanish authorities in Cuba accused the United States of not observing neutrality laws. Because of the increased tension, in 1873 the military constructed a sand battery at Whitehead Point (South Battery), and another (North Battery) about halfway between it and the Marine Hospital. Fort Taylor was also greatly strengthened by the completion of a large sand coverface in 1866. Both the South Battery at Whitehead Point and the Fort Taylor coverface can be seen in the 1884 *Bird's Eye View of Key West* (Figure 18).

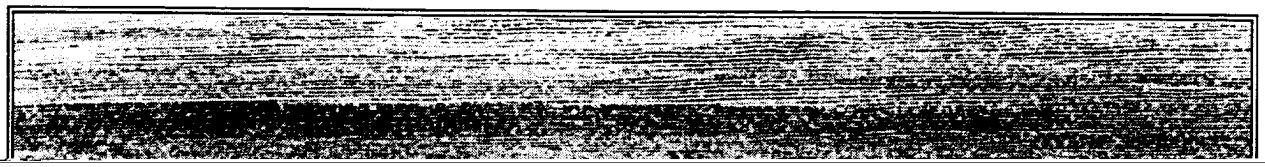
Cubans continued to emigrate and the cigar industry continued to grow. By 1890, there were over 200 factories in Key West employing about 12,000 individuals; over 100,000,000 cigars were produced by the factories in that year (Artman 1969). At this time, officials in Tampa offered free land, low taxes, and railroad access to the cigar manufacturers in an attempt to get the industry from Key West. Ybor and other manufacturers were persuaded and moved their facilities to swamplands at Tampa. The move to Tampa seriously [redacted]



Sponging also increased dramatically in the decades of the late nineteenth century. By 1892, sponging provided a $750,000 yearly income to local fishermen, and the sponging fleet had



in the late 1890s (Nichols 1989). Instead of hooking the sponges from a boat, the Greeks used diving suits and simply picked the sponges from the ocean bottom. Instead of leaving immature sponges to grow, like Key Westers did, the Greeks had a tendency to take all sponges, wiping out complete beds. A "range war" erupted between the native Key Westers and the Greeks, resulting in a lawsuit against the Greeks. The Greeks lost the lawsuit, and they moved to Tarpon Springs where there was less competition. In 1910, a red tide killed most of the sponges in the Key West



Both turtle meat and clear green turtle soup were considered delicacies and were in great demand during the late nineteenth and early twentieth centuries. Key West turtle soup had a worldwide gourmet reputation and was widely exported. The factory was sold to Norberg Thompson in 1910 (Langley and Langley 1982). Turtling continued on a commercial scale until the turtle population was almost wiped out in the 1960s. The harvesting of green turtles smaller than 41 inches was banned in 1971, effectively ending the commercial canning enterprise (Nichols 1989). Sea turtles were placed on the endangered species list in the late 1970s, and now are legally protected.

Spanish-American War (1898)

Due to its proximity to Cuba, Key West was a center of activity during the Spanish-American War. Throughout the late nineteenth century, Cuban dissidents and exiles had emigrated to Key West to escape persecution at home. Resistance had sporadically erupted during these years, but the real Cuban Revolution began with the organization of the Cuban Revolutionary Party by Jose Marti in 1892 (Langley and Langley 1982:28). Marti organized the revolution from Key West, and raised money and recruited expatriated Cubans for armed resistance. Many Key West fishermen became gunrunners to Cuba during this period. Marti ordered the revolution to start on February 25, 1895. Jose Marti lead his army and was killed at the first battle of the revolution, at Dos Rios in May 1895 (Artman 1987).

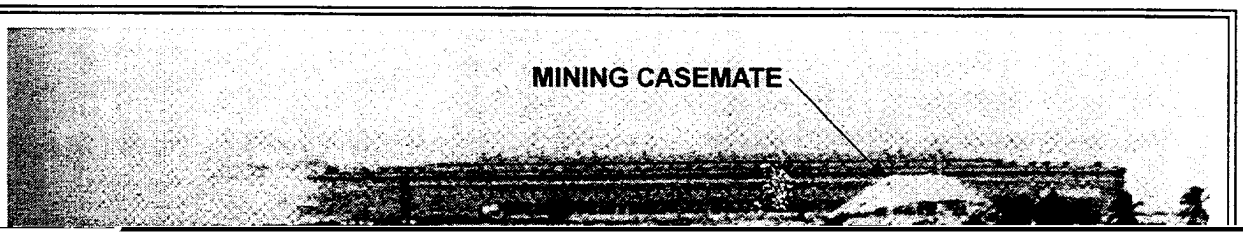
There was great sympathy for the Cuban revolutionaries in Key West and the rest of the United States. There was strong public support to assist Cuba in securing independence from Spain. In February 1898, the *U.S.S. Maine* left Key West for Cuba on a mission to deter shipments of men and guns from the United States. On February 15, the *Maine* exploded in Havana Harbor, resulting in great loss of life. Many of the recovered dead were later interred at the Key West City Cemetery. War proponents were outraged and claimed the ship was blown up by a mine. Spanish officials stated it was an internal explosion. Regardless of the cause, the United States immediately declared war on Spain.

With the war declaration, the entire U.S. Atlantic Fleet was moved to Key West (Nichols 1989). The Navy immediately began expanding and renovating its Key West facilities (Langley and Wright 1982). The docks were enlarged, and new barracks were built. Fort Taylor was obsolete, and the three tiered fort was considered too great a silhouette for modern naval guns. The third, or upper, tier of Fort Taylor was demolished and removed while the first, or lower, tier was filled with the demolition debris and sand. Batteries Osceola and Adair were constructed within old Fort Taylor on the second tier (England and Barron 1977). Battery Osceola was a two gun battery of Model 1896 12-inch rifles located behind the south casemates. Battery Adair was located to the west of Osceola and consisted of a four gun battery of 3-inch rapid fire rifles. For additional protection, the harbor was mined and a large casemate was constructed for detonation control on the Fort Taylor coverface (Figure 21).

Like Fort Taylor, the South Battery at Whitehead Point was demolished and a reinforced concrete fortification was constructed. The new South Battery consisted of four 10-inch and two 8-inch rifles with two small flanking batteries. The flanking batteries mounted two 15-pounder guns, and two 4.7 inch Armstrong-Whitworth guns, respectfully (Browne 1973:79). After the American invasion of Cuba, Spain quickly sued for peace. The Key West batteries were never used during the hostilities.

Flagler's Railroad (1902-1912)

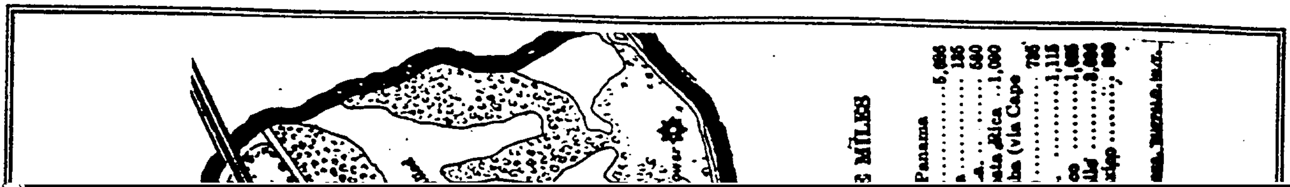
The developmental history of the Florida Keys and Key West was dramatically altered when Henry Flagler, a wealthy New York entrepreneur, conceived of the notion to build a rail line from Miami to Key West. In the 1890s Flagler had already financed lavish hotels in Palm Beach and Miami, complete with luxury rail service on the Florida East Coast Railway (Bethel 1990). These enterprises were enormously successful, and many elite individuals subsequently built mansions and winter homes in South Florida. In 1902, 28 additional miles of standard construction brought the Flagler Railroad system to Homestead (FECR 1912). Preliminary surveys along the Keys to Key West were made, and plans were begun for the construction of the Key West extension.


MINING CASEMATE

Flagler envisioned non-stop rail service to grand hotels in Key West. His dream continued with the idea that passenger and freight cars would be transferred to ferries bound for Havana or the Panama Canal (still under construction at that time). Luxury travel service could thus be offered to travelers arriving from Cuba or around the word via the Canal. Skeptics believed a railroad could not be built to Key West, or that it would be a financial disaster. Consequently, many called the proposed project "Flagler's Folly."

Actual construction on the Key West extension was begun in 1905. Despite enormous engineering difficulties, work progressed rapidly for the next five years. Work camps were established all along the Keys. When Flagler was informed there was not enough land left at Key West for the planned railroad terminal, he answered "then make some." The engineers' solution was to pump dredge spoil on the northern side of the island (Langley and Langley 1982:51); 134 acres of land (named Trumbo Annex and later Trumbo Point) was created on the north side of the island for Flagler's terminal (Figure 22). During this same period, many of the old salt flats located on the northeast corner of the island were filled. For the most part, the filling in these areas was not part of a concerted effort; instead, individual landowners appear to have gradually created small parcels of dry land for speculation.

The Key West extension was finally completed in early 1912. The first train to Key West arrived January 12, 1912 and was celebrated with much fanfare (Parks 1968). The railroad was named the "eighth wonder of the world." The Florida East Coast Railway Extension became a successful enterprise, but never to the extent that Flagler envisioned. Key West never became a playground for the wealthy like Palm Beach and Miami. Because of the new railroad, however, small towns and communities developed all along the Keys where there were none before.



World War I (1914-1918)

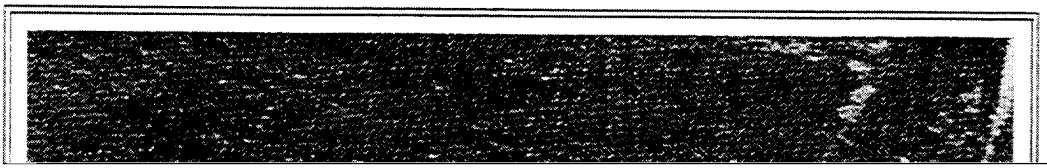
In 1914, World War I began and Key West becomes a strategic defense center to shipping

> the number of visitors increased by 10,691 or 46%, hotel registration increased 4,660 or 86%, the number of guests in rooming houses increased 150%, a typical restaurant reported 84% increase, one laundry experienced the best business since 1926.

Further up the Keys, a FERA labor force of hundreds of World War I veterans worked on building bridges for a new Overseas Highway to Key West. It was planned that the highway and the railroad would run from Homestead parallel to each other.

With economic recovery gradually underway, disaster struck the Keys on September 2, 1935. On that date, the weather turned fierce, and the Islamorada foreman for the Florida East Coast Railway realized a hurricane was eminent. He called the home office in Miami and begged for a rescue train to be sent (Nichols 1989). The train was sent with 10 foot waves breaking over the tracks. The FERA labor force, their families, and local residents were housed on Islamorada Key. All the residents were picked up at Islamorada, and the train went 20 miles further to pick up the residents at Matecumbe Key. As the terrified people boarded the rescue train, a 17 foot tidal wave washed over the island (Figure 23). The death toll was estimated at about 1000, and 577 bodies were later recovered and incinerated on Matecumbe (Parks 1968).

Although all the FEC Railway bridges remained structurally intact, miles of railroad [redacted]



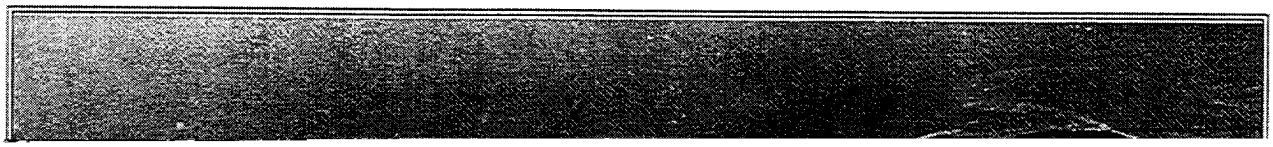
World War II (1941-1945)

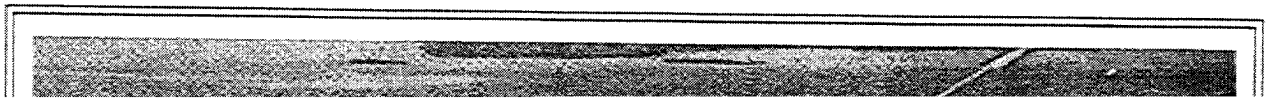
Like World War I, World War II brought bustling military activity to the Lower Keys and Key West. Monroe County had originally acquired most of Boca Chica Key for a municipal airport, but the Army took it over in 1942 and built three paved runways (Figure 24). The airstrip was transferred to the Navy in 1943, and the Boca Chica Naval Air Station was used to teach anti-submarine warfare and train carrier pilots (Windhorn and Langley 1974). The expanded Boca Chica facility included 56 barracks, eight bachelor officer quarters, a theater, a recreation hall, three hangars, as well as training and administration buildings. At its peak in 1945, the Naval Air Station housed 4000 personnel (Mickler 1945).

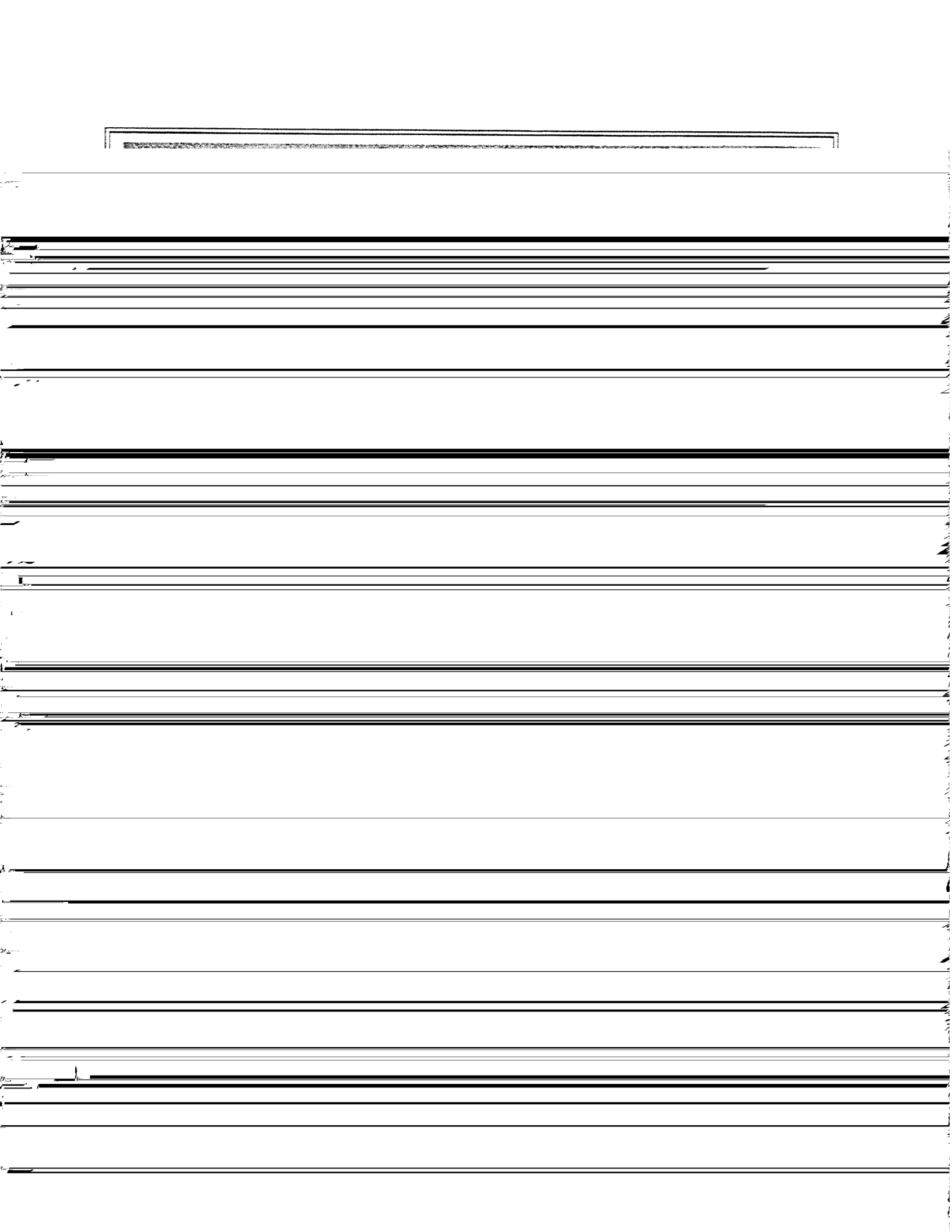
Instead of using Boca Chica, the Army began construction on Meacham Field in 1942 on the eastern end of Key West (Figure 25). Much of the old salt flats on the interior of Key West were filled in during the 1942/1943 construction of the airbase (Figure 26). Meacham Field was used as an Army airbase until the end of the war, when it was converted to civilian use as the Key West International Airport.

In all, about 15,000 servicemen and their [illegible]

The last major filling episode at Key West occurred when Truman Annex was created at the western tip of the island by the U.S. Navy. Truman Annex was filled and the Key West harbor (as it is now) was made during World War II. Subsequent maps show Truman Annex as a completely filled-in land area. In addition to the facilities described above, numerous others were constructed on the Truman Annex fill during World War II (Mickler 1945). In 1945, the land mass of Key West essentially appeared in its present-day (1996) form, with the exception of land which was added in front of Fort Taylor and the creation of Dredgers Key during the late 1950s (Figure 27).







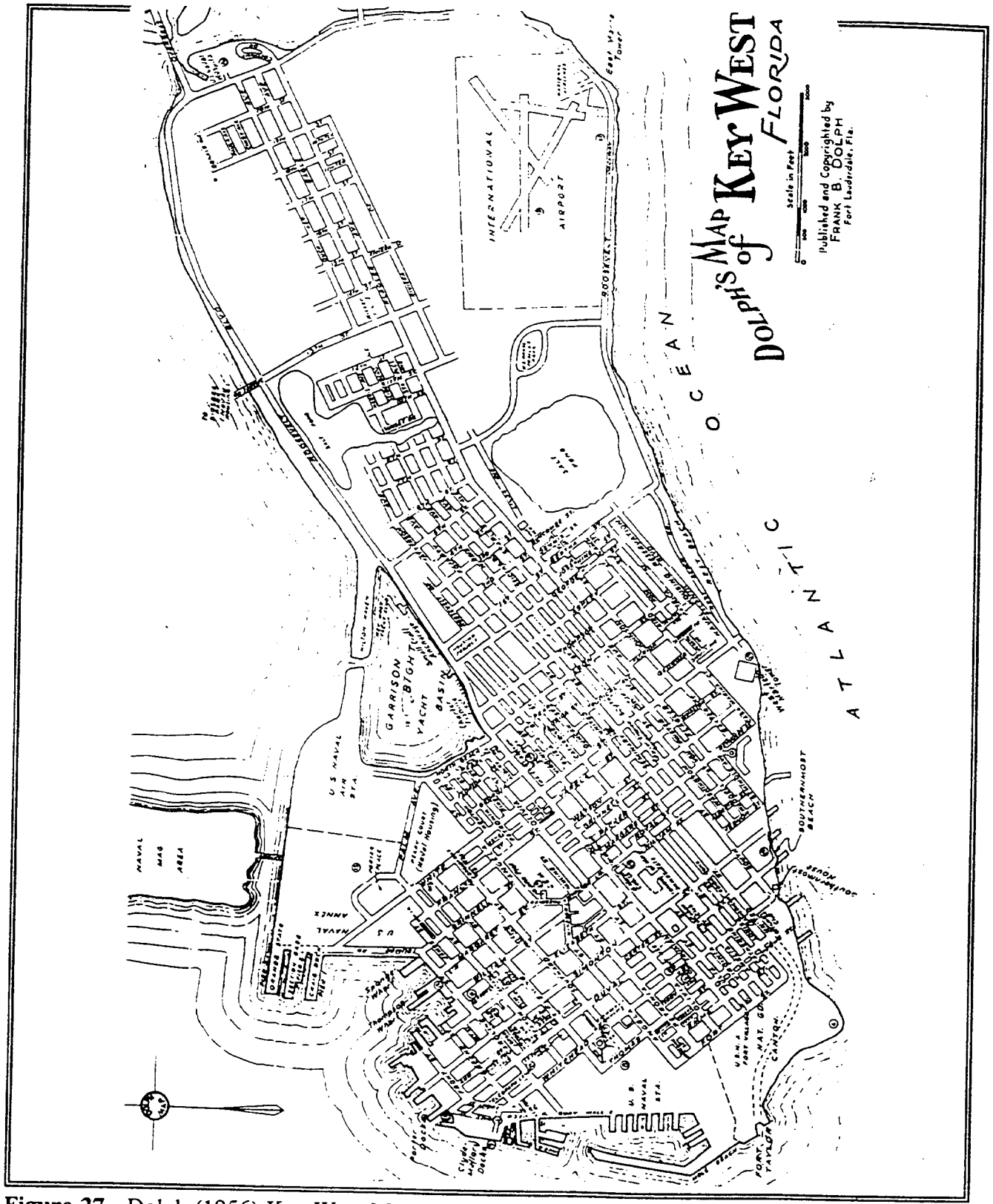


Figure 27. Dolph (1956) Key West Map.

III. METHODOLOGY

ARCHIVAL RESEARCH

Archival research for the research design was undertaken in October and November 1995 to provide cultural resources information and to assist in designing specific archaeological survey methods for the Key West NAS project area. The archival research was conducted by C.S. Butler at the following locations: Florida Archaeological Site Files, Tallahassee; Florida Archives, Tallahassee; Florida State University Library, Tallahassee; National Archives (East Point Branch), Atlanta; Georgia Archives, Atlanta; National Archives, Washington D.C.; Naval Historical Center, Washington D.C.; Key West NAS historical files, Boca Chica Key; Monroe County Public Library, Key West; and the Fort Zachary Taylor Museum, Key West. Previous archaeological and historical research reports were also reviewed at the U.S. Army Corps of Engineers Mobile District Office, Mobile, Alabama.

ARCHAEOLOGICAL FIELD METHODS

During the archival research it was found that each Key West NAS project area [redacted] archaeological potential, ranging from very low to extremely high. The

All areas which have potential for containing subsurface archaeological deposits were shovel tested at 30 meter intervals. The shovel tests measured 30 cm in diameter, and all fill were screened through 0.25 inch hardware cloth. The shovel tests were excavated to sterile subsoil, or to the submerged oolite formation which is typically about 10 cm below the surface. Special care was taken to insure that concretion zones were not mistakenly interpreted as the oolite formation.

Surface survey was utilized in exposed areas to supplement the shovel testing. The surface survey was important for locating any surface archaeological features, such as burial mounds, shell middens, cisterns, wells, foundations, etc. Within all defined archaeological site boundaries, at least one 50 by 50 cm unit was judgmentally excavated for every 500 square meters defined. Global Positioning Satellite (GPS) readings, consisting of Universal Transverse Mercator (UTM) coordinates, were taken at each site.

More intensive survey methods were planned for previously recorded sites. First visual reconnaissance and surface survey was employed at previously recorded sites to ascertain their present physical condition. Instead of shovel tests, it was then planned that 50 by 50 cm units would be excavated at 30 meter intervals throughout each site area to

at the Atlanta facilities of Brockington and Associates. Permanent curation will be at the Erskine Ramsay Archaeological Repository at Moundville, Alabama.

NRHP EVALUATION

The sites discovered were evaluated relative to their eligibility to the NRHP; the project contract allowed for sites to be recommended as eligible, potentially eligible, or ineligible. There is not a set of easily defined attributes which represent eligible or ineligible sites. Instead, through the years, sites have been evaluated for their "potential to contribute," their "significance" or, (most recently) "their ability to add to our "theoretical and substantive knowledge." Regardless of the exact terminology or citation, there is a consensus among cultural resource managers that each site must be individually evaluated relative to similar site types of the region, and with full awareness of the research needs of the region. The draft version of National Register Bulletin 36 (Townsend et al. 1993) reiterates the need to tie eligibility or ineligibility to local research needs.

There has been much discussion on the applicability of various approaches in determining research potential (Butler 1987). At Brockington and Associates, the attributes first defined by Glassow (1977) are applied, but not in the manner prescribed by Glassow. The overall management scheme proposed by Glassow is not seen as tenable, and is furthermore best applied to broad, regional survey. However, the attributes defined by Glassow (clarity, integrity, artifact frequency, and artifact diversity) are useful in linking a site's condition to its ability to address regionally relevant research questions. Clarity refers to the ability or inability to relate specific strata or features to a specific component. Research questions of intrasite settlement, subsistence, refuse disposal, and patterns of material culture require that an assemblage and its features can be isolated. Integrity refers to both the degree of organic preservation and the degree of disturbance. Issues of zooarchaeology and ethnobotany cannot be meaningfully addressed if organic integrity is poor, and assemblage-based analyses are weakened if stratigraphic integrity is not present. Artifact frequency and diversity both determine the feasibility of various material culture

studies. For example, a collection of 20 small Native American sherds is not well suited for a detailed ceramic technology study.

The challenge of properly determining eligibility is to link the site attributes to its potential to contribute to meaningful and relevant research. That is, information from any particular resource should be sufficient to address specific questions concerning the interpretation of the cultural history of a region. Given a well documented and clearly delineated, (i.e., its clarity, integrity, artifact frequency, and artifact diversity), and given a regional research context, it is relatively straightforward to determine a site's potential to make a meaningful contribution. Butler's (1987) approach to demonstrating eligibility or ineligibility is most readily pursued when a state or regional management context/plan has been developed.

Florida has not completed a state archaeological context. However, an excellent archaeological synthesis of the southern Florida region has been completed (Griffin 1989). By examining this synthesis and other contexts for the region, a series of research realms was developed to assist in linking site attributes to the ability to contribute to meaningful regional research (Table 2).

Each discovered site was evaluated for its potential to address the research realms presented in Table 2. A site will not have to hold the potential to address all or most of the research realms to be recommended eligible. The use of the research realm table is best suited to demonstrating ineligibility; arguments for eligibility will require more extensive discussions demonstrating exactly how the potential of the site can be operationalized. It is emphasized that a site's potential must be evaluated relative to other sites of similar temporal and functional identity. For example, it is not reasonable to compare a small scatter of Paleoindian lithic tools and debitage with an artifact-rich Glades shell midden for their potential to address questions of subsistence. The Paleoindian site will have lower

Table 2. NRHP Eligibility Indicators, Prehistoric and Historic Sites.

PREHISTORIC	HISTORIC
Plant diet	Plant diet
Faunal diet	Faunal diet
Faunal/Floral seasonality	Husbandry/subsistence/economy
Intrasite settlement	Intrasite settlement
Structure form and proxemics	Structure form and proxemics
Activity areas	Activity areas
Burial ritual	Burial ritual
Osteological characterization	Osteological characterization
Ethnic relationships	Ethnic relationships
General health	General health
Osteological diet study	Osteological diet study
Use of Euro-American goods (Historic Period Indians only)	Ceramic assemblage Vessel form analysis Class, status, ethnic indicators
Ceramic technology	
Intrasite stylistic variation	Assemblage variation/site function
Vessel form analysis	Feature analysis/site function
[redacted]	[redacted]
Lithic raw material patterns	Production technology (pottery, brick, etc.)
Culture history sequence	Water-powered processing technology

artifact frequency and density than a Glades shell midden, yet both may be eligible for the NRHP, and cross-functional comparisons should not be made during the recommendation process.

Lastly, a site must be evaluated for its potential to contribute beyond the level of the already completed research. While almost all sites have some potential to contribute to our knowledge of prehistoric, contact period, or historic settlement and land use, such potential is often fully achieved at the survey or testing level, and further research would add little meaningful information.

IV. SURVEY RESULTS

BOCA CHICA KEY

The main facilities of the Key West Naval Air Station (runways, tower, communications, administration buildings) are primarily located at Boca Chica Key. An examination of project maps showed that much of the island's surface has been either paved over for runway and roads or used for building sites.

During the survey, all areas which contained potential for subsurface archaeological deposits (dry and unpaved) were shovel tested at 30 meter intervals. Once in the field, it was found that most of Boca Chica has been bulldozed to the underlying oolite formation (caprock). For the most part, it was impossible to dig shovel tests, although surface visibility was one hundred percent. Soil was only present in a few areas. There was usually only about five to ten centimeters of soil in locations where is was present.

Review of the Florida site files showed that several archaeological sites were previously recorded within the Boca Chica project area (see Boca Chica project quadrangle). These sites were considered potentially very significant and particular care was taken to examine these areas thoroughly. A discussion of each investigated site area, including those identified during the present survey, is given below.

8MO3

Site 8MO3 was recorded by Goggin (1944) as a stone circle approximately 45 feet in diameter. Carr and Fay (1990) did not visit 8MO3, but he recommended that the site be relocated and evaluated. The location of 8MO3 is recorded as adjacent to a runway, near the main NAS complex (see Boca Chica project quadrangle).

During the present investigations, no evidence was found of 8MO3. No soil is present at the area recorded as 8MO3, and therefore no shovel tests or 50 by 50 cm units were excavated there. No other site matching the description of 8MO3 was located during the survey. It is considered likely that the site has been bulldozed since it was recorded by John Goggin in 1944. No further cultural resource management is recommended for the area recorded as 8MO3.

8M01267

Site 8MO1267 is recorded as Boca Chica Mounds, which were excavated by avocational archaeologist Bill Fournier in the 1950s and 1960s. Carr and Fay (1990) cite David Perez as his source of information regarding the site. Apparently, Fournier's notes of the original excavations no longer exist. At that time, the site consisted of 10-15 oval mounds made of coral rock. Reportedly, these mounds were approximately 2 meters high and 2 to 5 meters in diameter. Fournier uncovered numerous burials with grave goods; although he left the skeletal material, he collected a number of impressive burial goods.

The artifacts Fourneir collected included numerous ceramic vessels with incised decorations (Carr and Fay 1990). According to Perez, the ceramic vessels were burial urns and often contained human bones. Other artifacts included a preserved six foot long bow made of "black palm." A bamboo quiver was also found associated with the bow. Several stingray barbs and Busycon shell crowns packed with blue clay pigment were found inside the quiver. Fournier suggested the barbs and crowns were a tattooing kit. Shell ornaments were also collected, but not described.

Carr and Fay (1990) did not revisit 8MO1267. They stated that the site had been recently bulldozed inadvertently. Bob Carr recommended that the site was potentially very significant, and that it should be investigated and evaluated.

The location of 8MO1267 was not specifically documented, and consequently the recorded site position on the Florida site files USGS (Boca Chica Key) quadrangle includes a large area of the southwestern end of Boca Chica Key (see Boca Chica project quadrangle). However, several local individuals stated that the burial mounds were located on the point of land at the extreme southeastern tip of Boca Chica, where ammo bunkers now are. These individuals confirmed Carr and Fay's (1990) statement that the site had been bulldozed. Regardless, this site was judged have potential to be extremely significant, and every effort was to be made to salvage data from the site and identify intact archaeological deposits.

Once in the field, however, it was soon ascertained that there is no possibility for archaeological data to be present at the 8MO1267 site area. No trace of any coral burial mounds were located. The area has been bulldozed bare to the oolite formation, and 50 by 50 cm units could not be excavated. Large surface bunkers have been constructed for the storage of aviation ordnance. It appeared that coral rocks have been bulldozed into the adjacent mangroves. The edge of the mangroves were closely scrutinized, but no artifacts were located. There are no longer any surface or subsurface archaeological features or deposits present at 8MO1267. No further cultural resource management is recommended for this area.

8MO1268

Site 8MO1268 recorded as a prehistoric shell midden, located on a small mangrove encircled island northwest of Boca Chica Key (see Boca Chica project quadrangle). The site was recorded in 1968 by Felton and Tesa, who state the midden consists of shell and sherds on the grass-covered center of the island. Carr and Fay (1990) did not revisit 8MO1268. They recommended the site be revisited and evaluated.

During the present investigations, a boat was utilized to gain access to the island. Upon reaching the island, it was observed that no shell midden was present. This island

entirely consists of mangroves, and is very wet. The previously recorded location of 8MO1268 must be a mistake. Other small islands are located to the south (west of Boca Chica Channel) which are within the NAS project area. With the idea that 8MO1268 might have been mislocated, these islands were intensively searched. However, these areas are also wet mangrove islands, with no cultural material.

It is probable that 8MO1268 was originally mislocated on project maps. An island with shell and a grassed center can be observed from U.S. 1, between the highway and Raccoon Key. This island is outside the Navy project area and was not examined during the present survey. Future investigators may wish to survey this small island. For the present project, however, no midden is located at the island identified as 8MO1268. No further cultural resource management is suggested at this location.

8MO1448

Site 8MO1448 is an underwater archaeological site, consisting of a Spanish shipwreck. The submerged wreck is located off the southwestern tip of Boca Chica Key, at the edge of Boca Chica channel (see Boca Chica project quadrangle). The site was recorded by Jim Dunbar in 1992, but was first found in 1974. In a 1991 interim report, this wreck is tentavely identified as a small sixteenth century Spanish coastal vessel of an (as yet) unidentified type (Muir et al. 1991). This report further states that a wreck of an early twentieth century fishing vessel is also located nearby (Muir et al. 1991:16).

The present archaeological investigations are terrestrial, and the site was not examined during the survey. This underwater site is potentially significant, however, and should be managed as such. A number of individuals have shown interest in further investigations of the wreck. In a March 27 1996 letter to Mr. Richard Davis at NAS Key West, Navy Historical Center underwater archaeologist Mr. Robert Neyland states that "the ultimate goal for the site should be *in situ* preservation of the archaeological remains."

8MO1477

Site 8MO1477 was identified during the present archaeological investigations (see Boca Chica project quadrangle). The site consists of a small coral rock mound, measuring approximately one meter high by about four to five meters in diameter (Figure 28). No artifacts were recovered at the site, and the function of the mound is unknown. There was some surface visibility at the site, but no surface artifacts were observed. In addition to the surface survey, eight close interval (10 meter) shovel tests and several judgmental shovel tests were excavated adjacent and into the mound. These shovel tests, which averaged about five cm in depth, yielded no cultural material. There is a depression near the center of this small mound.

This small mound is similar in description to the burial mounds recorded at 8MO1267. Unlike 8MO1267, however, no artifacts were recovered at 8MO1477, even after close examination. It is also possible that the mound is simply a push pile from World War II runway construction. The site could also be a shallow well from the late nineteenth/early twentieth century historic period.

Site 8MO1477 is recommended potentially eligible for the NRHP. Further archaeological testing is required to determine the function of 8MO1477. The site should be tested before any physical impacts are planned for the site area. Additional management of the site should be based on the results of the archaeological testing.

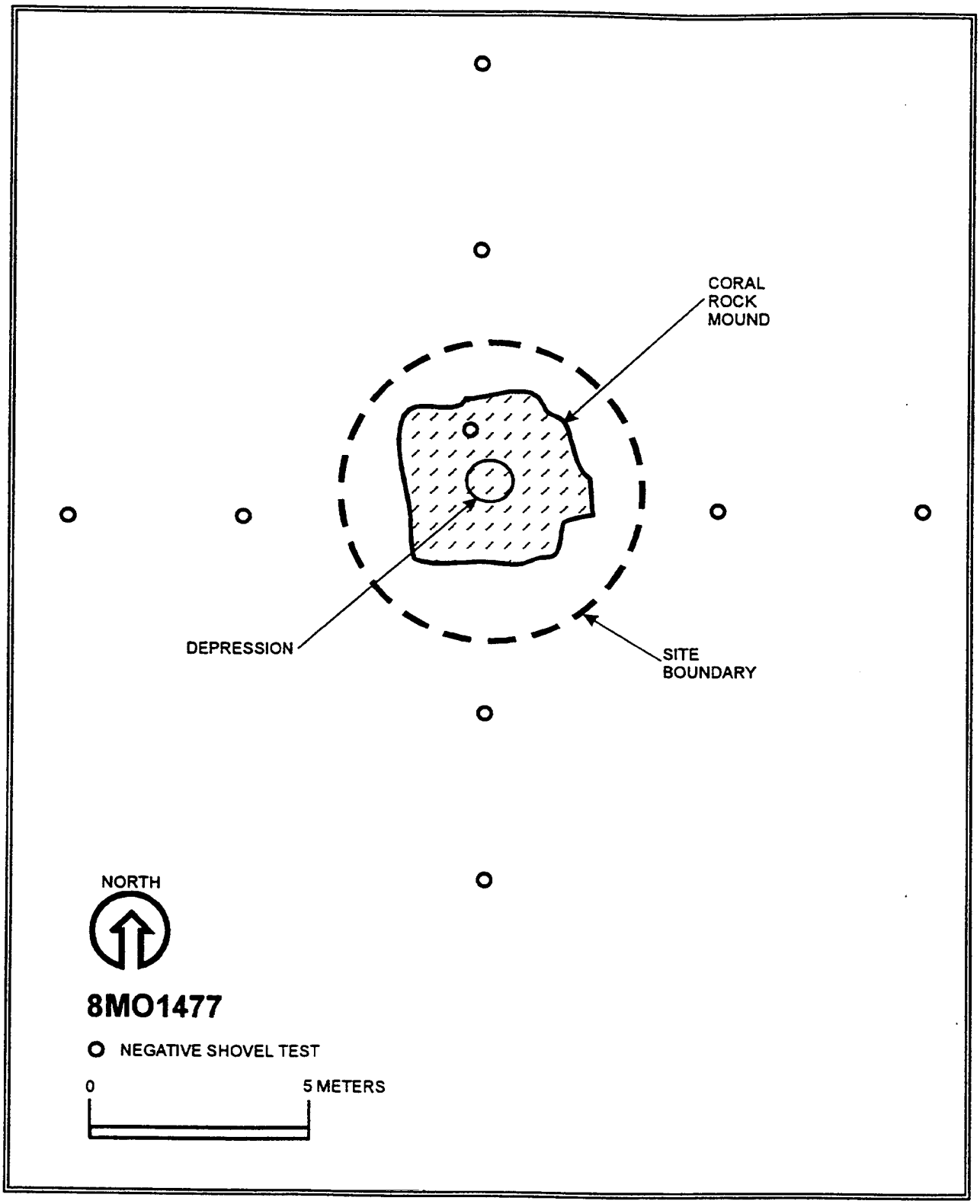


Figure 28. Site 8MO1477 Map.

8MO1478

Site 8MO1478 is located on the western side of Boca Chica Key, immediately north of the weapons facility (see Boca Chica project quadrangle). 8MO1478 is a late nineteenth/early twentieth century historic house site (Figure 29). The most prominent feature at this site is a semi-subterranean concrete cistern, measuring approximately two meters by two meters. Close interval (15 meter) shovel tests were excavated across the site area, but yielded few artifacts.

Two distinctive (although thin) midden areas were observed, with whole bottles and oyster and conch shells on the surface. A 50 by 50 cm unit was excavated in both of the midden areas. Artifacts recovered from Unit 1 (Prov. 201.1) include undecorated ironstone, porcelain with a 1920s maker's mark, and a dark olive green glass bottle base. The unit extended only about five cm to the oolite formation. A number of whole bottles were on the surface of the midden where Unit 1 was excavated. A sample (n=5) of the bottles were collected. These bottles (all wine and beer bottles) have a date range from 1880-1913. Artifacts from Unit 2 (Prov. 202.1) include olive green bottle glass, a light blue Budweiser bottle (1875-1883), and an amethyst food bottle. Unit 2 extended about 10 cm through 10YR3/3 dark brown sand loam to the oolite formation.

Site 8MO1478 contains intact subsurface archaeological features. The site has the potential to address research realms outlined in Table 2. Specifically, historic research realms which could be addressed include faunal diet; subsistence and economy; structure form; and class, status, and ethnic indicators. Site 8MO1478 is recommended eligible for the NRHP.

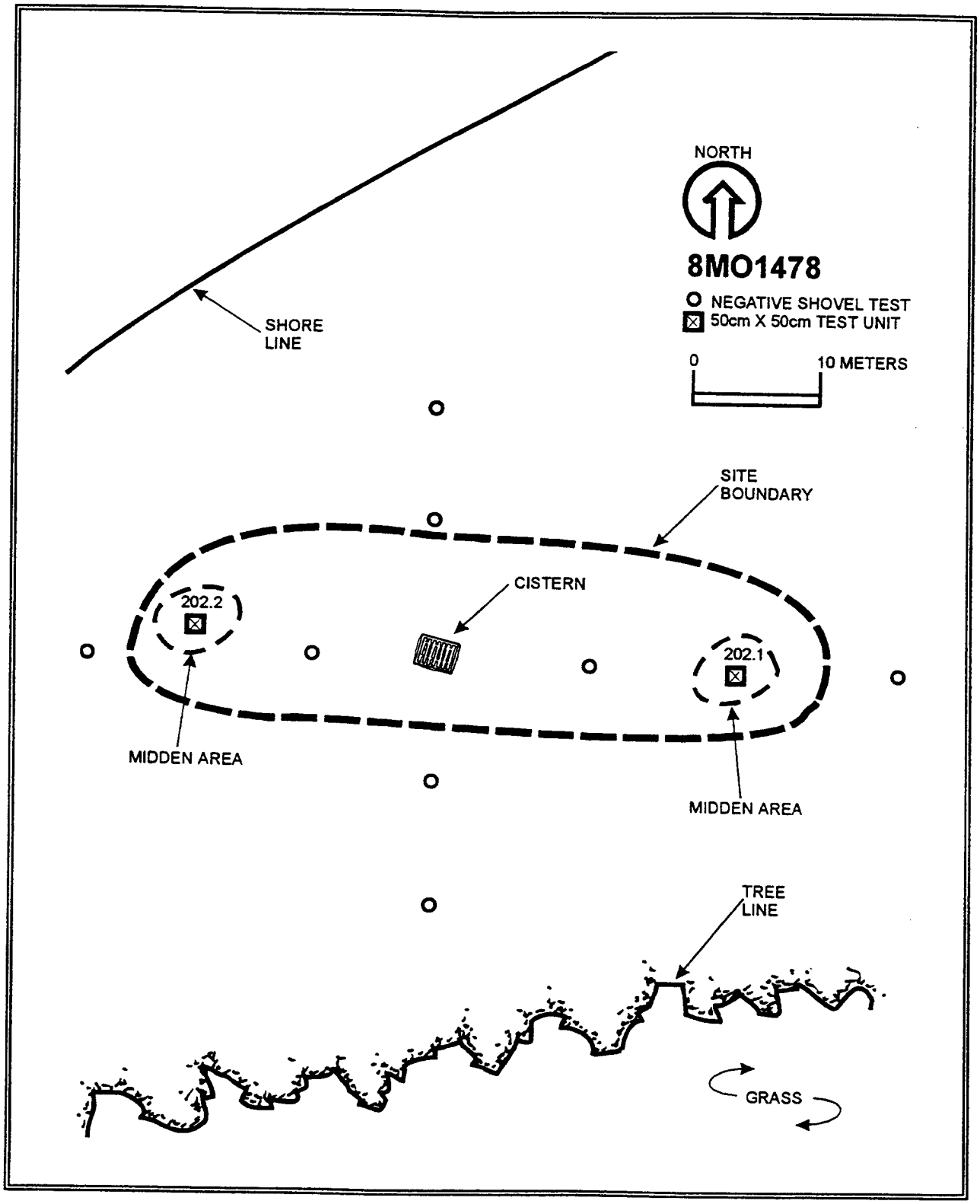


Figure 29. Site 8MO1478 Map.

SADDLEBUNCH KEY

No archaeological sites were previously recorded for Saddlebunch Key, and none were located during the present survey. The bulldozer disturbance noted on Boca Chica Key is even more prevalent on Saddlebunch Key. Individual bulldozer furrows can easily be seen in the rocky soil of the island. Shovel tests were excavated in some portions of the island. For the most part, however, shovel test excavation was not possible and one hundred percent surface survey was utilized.

Archival information indicates that vegetation on Saddlebunch Key was cleared during World War II, and the island served as a Naval aviation practice bombing range. Local informants state that the range was used for inert bomb practice, to test the accuracy of the pilots. Saddlebunch Key personnel state that fill was also brought in during World War II for road construction and to create more surface area for the bombing range. A boat was utilized to gain access to the northeastern portion of the Saddlebunch Key Naval property which could not be gained by land. Like the main part of the island, no artifacts or archaeological deposits were identified.

Several heavily oxidized practice bombs were observed during the survey, along with a number of spent .50 caliber machine gun rounds. This material was not collected. The expended ordnance confirms the archival information concerning the World War II use of the island. After the war, Saddlebunch Key was converted to a Naval communications facility, which remains its present day function. No further cultural resource management is recommended at Saddlebunch Key.

GEIGER KEY

The Naval property at Geiger Key was extensively bulldozed in the early 1960s and the area was filled and built up as a Hawk missile facility. The background research indicated little potential for intact archaeological deposits, although it was thought that some could be present in relatively undisturbed areas.

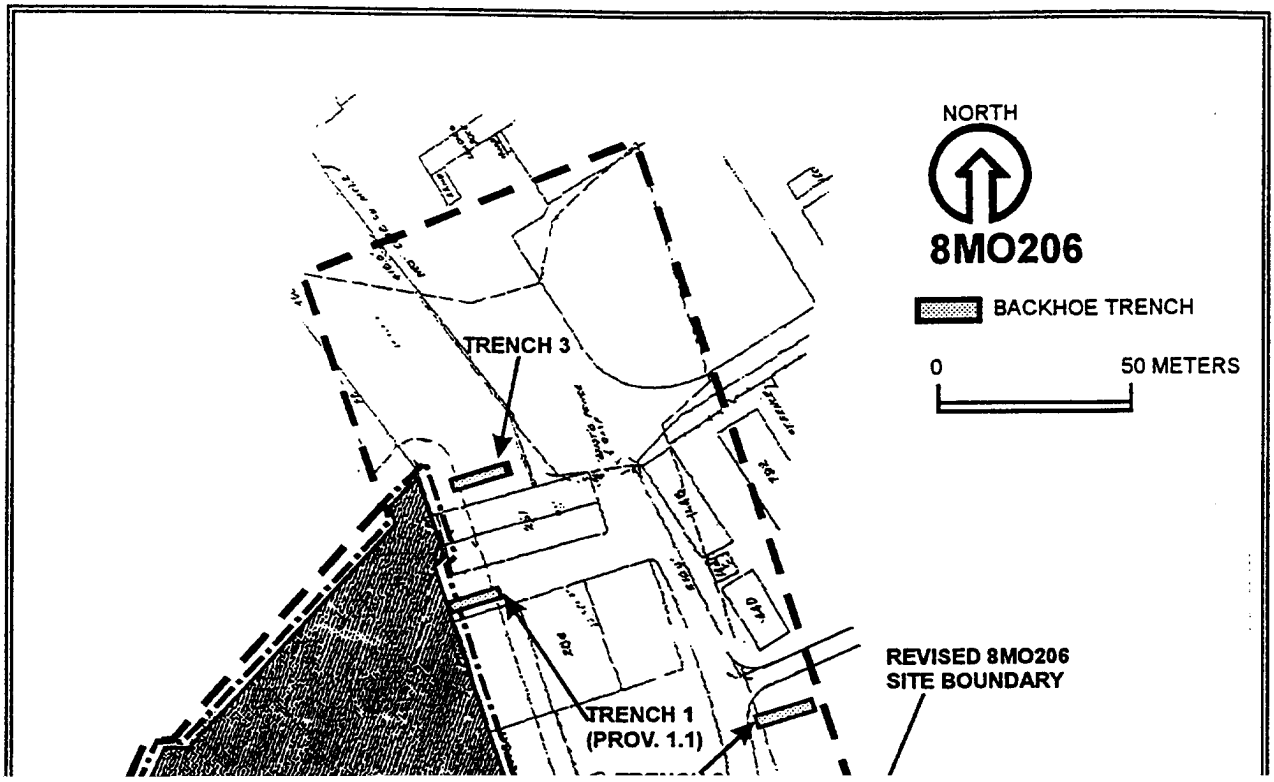
During the field investigation, it was immediately realized there is no archaeological potential at the Geiger Key Hawk Missile facility. The area has been extensively filled. Large berms for containing explosions were constructed, along with roads, buildings, and a track system to move the missiles. No further archaeological management is recommended at the Geiger Key project area. However, Geiger Key Hawk Missile site has previously been evaluated NRHP eligible as a Cold War Era property (USCOE Mobile District 1995:152). Specific architectural management recommendations have previously been given concerning the Geiger Key Hawk Missile facility.

KEY WEST

Most of the Key West project area parcels were considered to have very low potential for containing significant intact archaeological deposits. Notable exceptions are two areas in Truman Annex which were considered to have extremely high archaeological potential. The high potential locations include an area adjacent to Fort Taylor, and Whitehead Spit (or Point) at the southernmost end of Key West. Naval personnel commonly refer to Whitehead Spit as "the antenna field," after large antennas which are presently located there. Each individual Key West parcel investigated during the survey is discussed in detail below.

Truman Annex- 8MO206 (Fort Taylor)

Archival research indicated a large sand coverface was completed in 1866 to help protect Fort Taylor. Modern land maps show the exact outline of the old coverface (Figure


NORTH
8MO206
BACKHOE TRENCH
0
50 METERS
TRENCH 3
TRENCH 1
(PROV. 1.1)
REVISED 8MO206
SITE BOUNDARY

30). Historic maps indicate subsurface rooms were constructed into the coverface. The exact function of these rooms are unknown, but a large mining casemate was constructed in 1898 during the Spanish-American War for control and detonation of anti-shipping mines in Key West Harbor. Scrutiny of late nineteenth century photographs showed that the narrow gauge railroad from the Martello batteries terminated at a brick building on the northern end of the coverface; the railroad engine was stored in the building. Finally, it was theorized that in the nineteenth century, garbage may have been commonly dumped off the causeway from the main island to Fort Taylor. The area was later filled, but it was thought that a nineteenth century military midden debris could be deep below the present surface, on the old bay bottom.

Due to the nature of the filled area adjacent to Fort Taylor, it was considered unlikely that shovel tests would be useful for locating subsurface archaeological deposits there. Instead, a backhoe was utilized to dig trenches to reveal vertical patterning of the fill and subsurface archaeological features. Three backhoe trenches (Trenches 1-3) were dug near Fort Taylor.

Trench 1 was excavated adjacent to old Road A. Road A used to lead to the Fort Taylor main entrance and was also the location of the wooden causeway before the area was filled. During the research design phase, it was theorized that military garbage could have been thrown from the causeway during the nineteenth century, resulting in deposits on the old bay bottom.

Trench 1 measured approximately four meters in length, and was excavated below the water table to a depth of about three meters (300 cm). The trench revealed a number of fill layers (Figure 31). Layer I extends from the surface to 25 cm, and consists of light gray sand, mixed with brick rubble, building stone and coral rocks. Level II extends from 25 cm to 140 cm, and consists of brown sand with coral and stone rubble. Modern artifacts

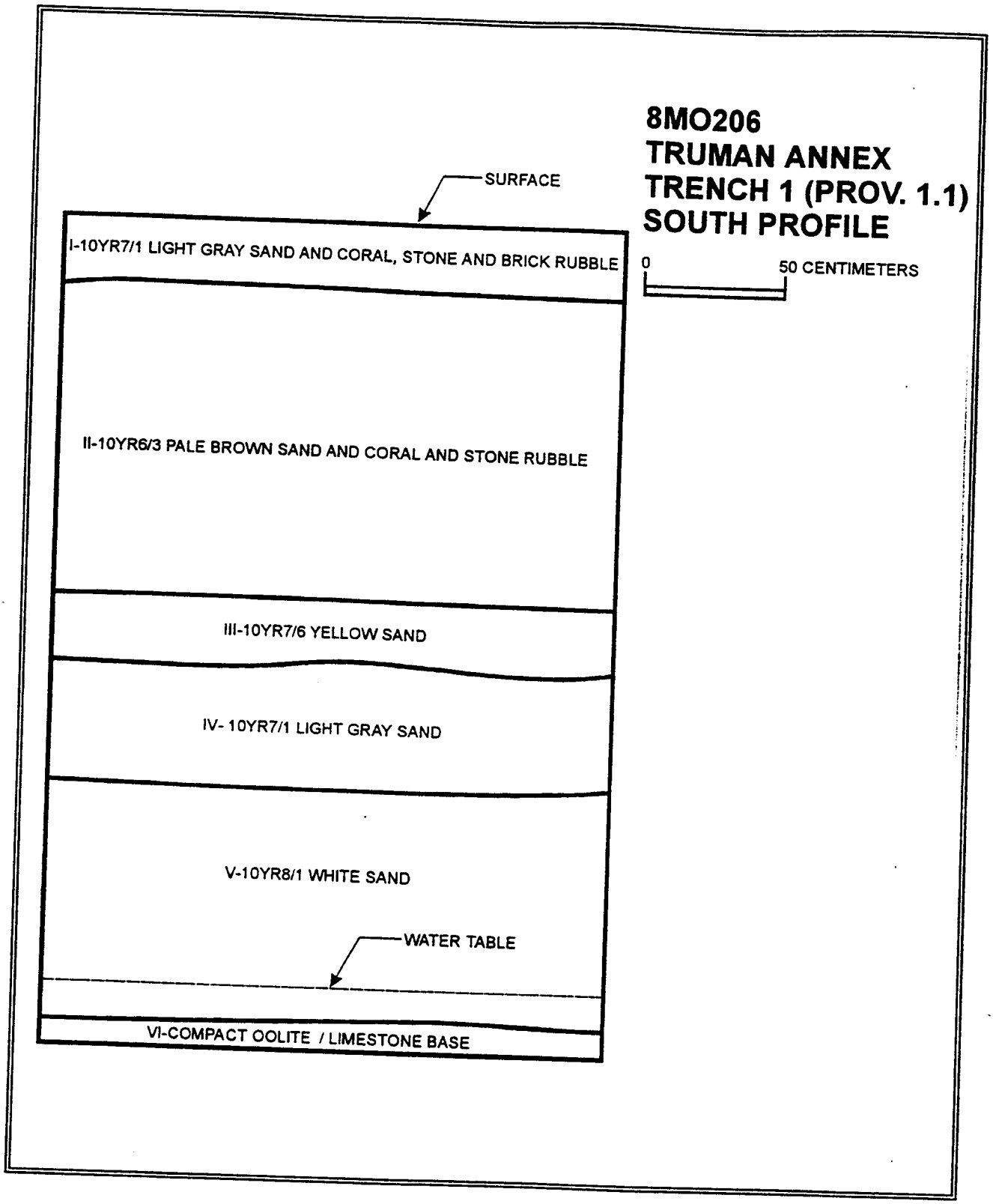


Figure 31. 8MO206 Trench 1 (Prov. 1.1)

(metal rebar, machine made brick and concrete block fragments, cans, glass, etc.) were recovered from Levels I and II and these levels are interpreted as modern (1950s or 1960s) fill. Level III extends from 140 cm to 160 cm, and consists of yellow sand. Level IV extends from 160 to 205 cm, and consists of light gray sand. Level V extends from 205 cm to 280 cm, and consists of a mucky white sand, mixed with some shell. The water table was reached in this level. Once exposed, Level V had a strong organic smell. Below Level V was a compact coral/limestone base, and the trench could not be excavated further.

Level V is interpreted as the old bay bottom. Several artifacts were recovered from the Level V fill, including a whole clear bottle, an olive green wine bottle base, an unidentified iron object, and a muzzleloading gun barrel. The wine bottle base is undiagnostic, but the clear bottle is from a three-part dip body mold, dating it from 1821 to the 1860s (Baugher-Perlin 1982). The gun barrel was badly oxidized, but an industrial X-ray was made (Figure 32), revealing that the barrel is loaded with birdshot. Measurement of the bore shows that it is .69 inches in diameter, and is not rifled. The weapon was probably a Model 1842 .69 caliber smoothbore musket, and was lost during bird hunting. These weapons were commonly used until the Civil War, when they were replaced with more efficient .58 caliber rifle-muskets. Although no archaeological features or a thick midden layer were identified, these artifacts are interesting and it appears that objects were indeed occasionally discarded and lost off the causeway.

Trench 2 was excavated perpendicular and immediately adjacent to the outside wall of Fort Taylor (Figure 33). Archival research indicated that a moat was present in the late nineteenth century between the fort and the sand coverface. The backhoe trench measured approximately four meters in length, and was excavated below the water table to a depth of three meters (300 cm). The trench revealed three fill layers adjacent to Fort Taylor.

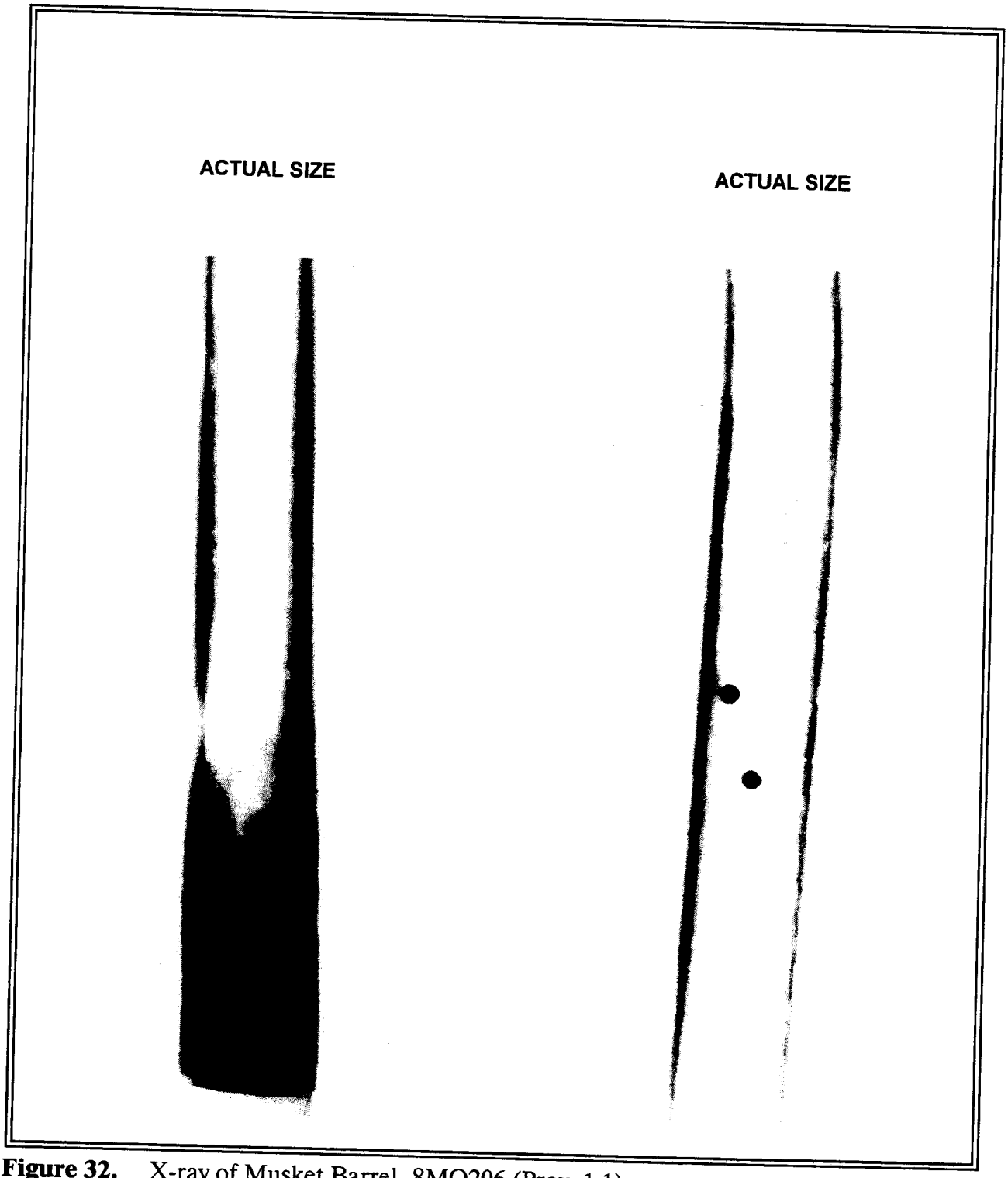


Figure 32. X-ray of Musket Barrel- 8MO206 (Prov. 1.1)

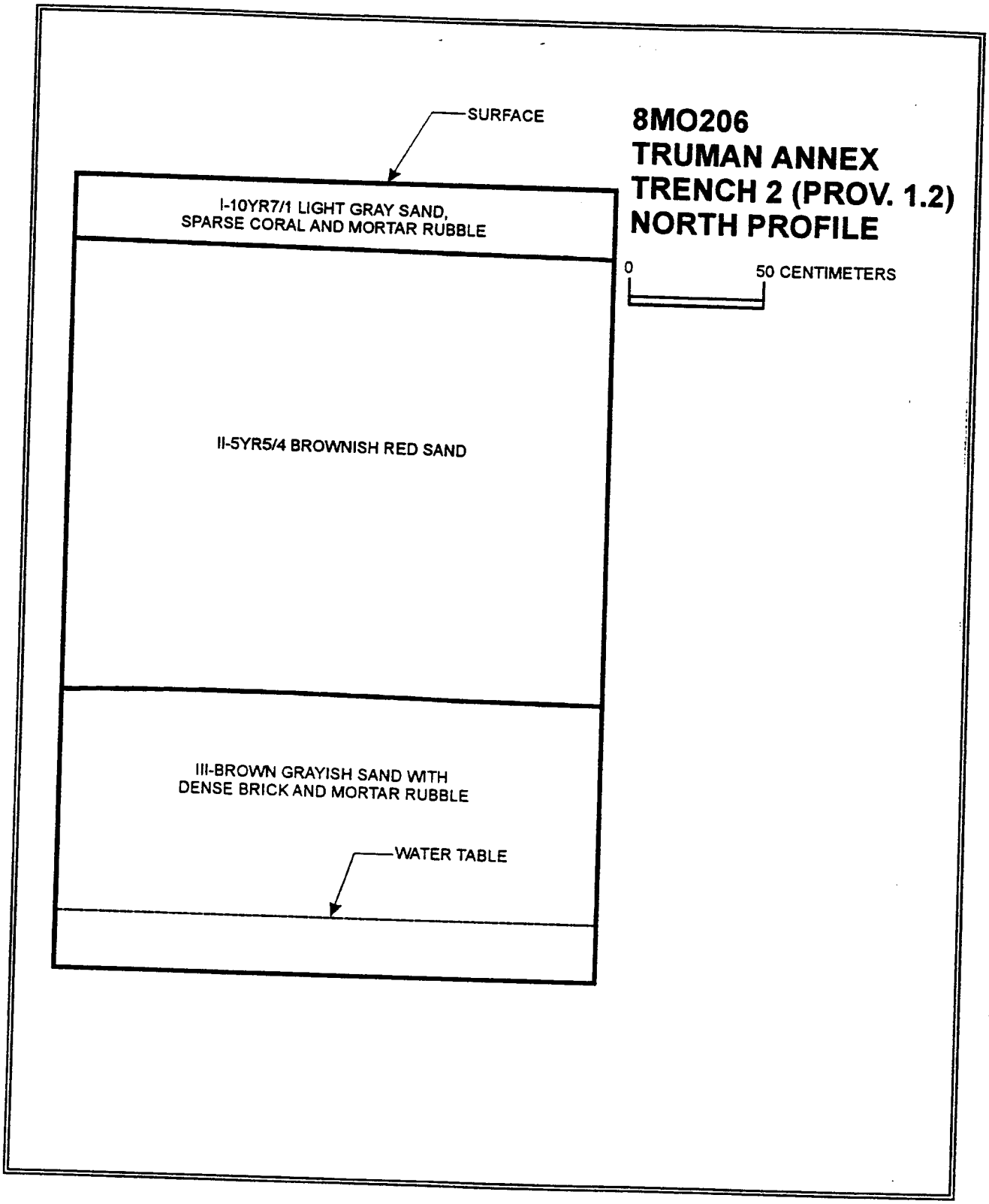


Figure 33. 8MO206 Trench 2 (Prov. 1.2).

Layer I extends from the surface to 20 cm, and consists of a light gray sand sparsely mixed with coral and mortar rubble. Layer II extends from 20 cm to 195 cm, and consists of a gray-brown sand with dense brick and mortar rubble. Level III extends from 195 cm to about 300 cm, and consists of the mucky white sand which was interpreted as the old bay bottom. The water table was reached at about 280 cm.

Large sections of mortared brick wall is present in Level II. It is interpreted that this brick is from the 1898 demolition of the Fort Taylor upper tier. A substantial amount of debris was evidently thrown over the side during the demolition. In addition to the brick, a number of other artifacts were also mixed in the rubble in Layer II. A sample of these artifacts was collected, and consists of bottles and bottle glass, large spikes and bolts, conch shell and terra cotta [redacted]

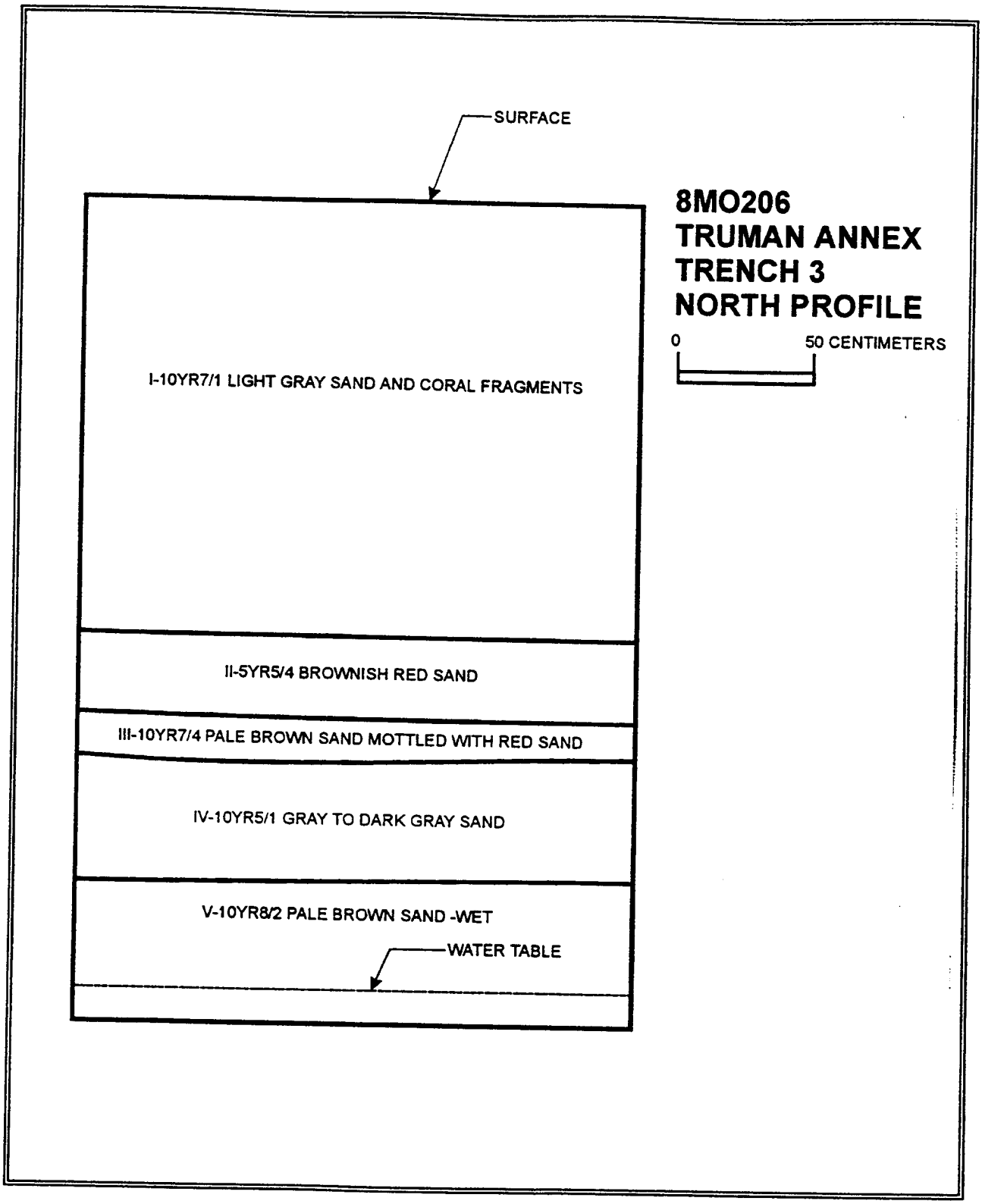


Figure 34. 8MO206 Trench 3.

that the coverface exists as a large subsurface archaeological structure. The limited archaeological survey did not identify any intact archaeological deposits or features in the coverface area. However, archival information indicates that mining casemates may be present as large subsurface features within the coverface. More intensive Phase II archaeological testing investigations are necessary to determine the presence/absence of intact archaeological deposits and/or features.

While additional Phase II archaeological testing is recommended, enough information is available to extend the archaeological site boundary of 8MO206 (Fort Taylor) to include the old coverface. If subsurface excavation is planned within the expanded site area in the future, it is recommended that testing be conducted to determine the full extent and significance of these archeological deposits.

Truman Annex- Whitehead Spit

Whitehead Spit was the other area in Truman Annex which was considered to have high archaeological potential. The Whitehead (1829) map (see Figure 6) shows a lighthouse on Whitehead Point, which was destroyed in the 1846 hurricane. During the Civil War, a government compound was constructed at Whitehead Point for freed slaves from captured Confederate blockade runners. In 1873 a small sand battery was erected at Whitehead Spit. The small battery was enlarged in 1897 into a substantial fortification. Historic maps indicate that the old Civil War-era cannon may have been surplused and buried on site, like they were at nearby Fort Taylor.

Thus the archival information indicates a great deal of archaeological potential to be present under an unknown depth of fill. Like the area adjacent of Fort Taylor, it was planned for backhoe trenches to be dug to determine the nature of the fill and identify archaeological deposits. During the field project, however, the field director was informed by the Navy that this area was used for the dumping of toxic materials (primarily fuel and

old batteries) after World War II and that excavation is prohibited. Consequently, no archaeological investigations were conducted at Whitehead Point.

During a recent (1994) contamination clean-up effort, two feet of fill was removed from a specified area in the antenna field (Figure 35). The contaminated soil was replaced with clean fill. Interestingly, two eight inch cannonballs (one solid shot and one explosive case shot) were discovered during this effort. Presently (1996), the solid shot is at the NAS Public Works office and the case shot is at the Monroe County Sheriff's office. These finds support the archival evidence that this area has high potential for nineteenth century archaeological deposits.

Truman Annex- Low Potential Areas

Outside the two areas described above, there is almost no potential for archaeological deposits in Truman Annex. The 1829 Whitehead map shows the area west of Thomas Street and north of Fleming Street was the original waterfront. Archaeological deposits may have been present in this area at one time, but modern naval facilities are now densely situated in this location. Construction of these facilities have probably previously destroyed older historic deposits in this vicinity. Furthermore, it is not practical to dig backhoe trenches in this area because of the modern buildings and facilities.

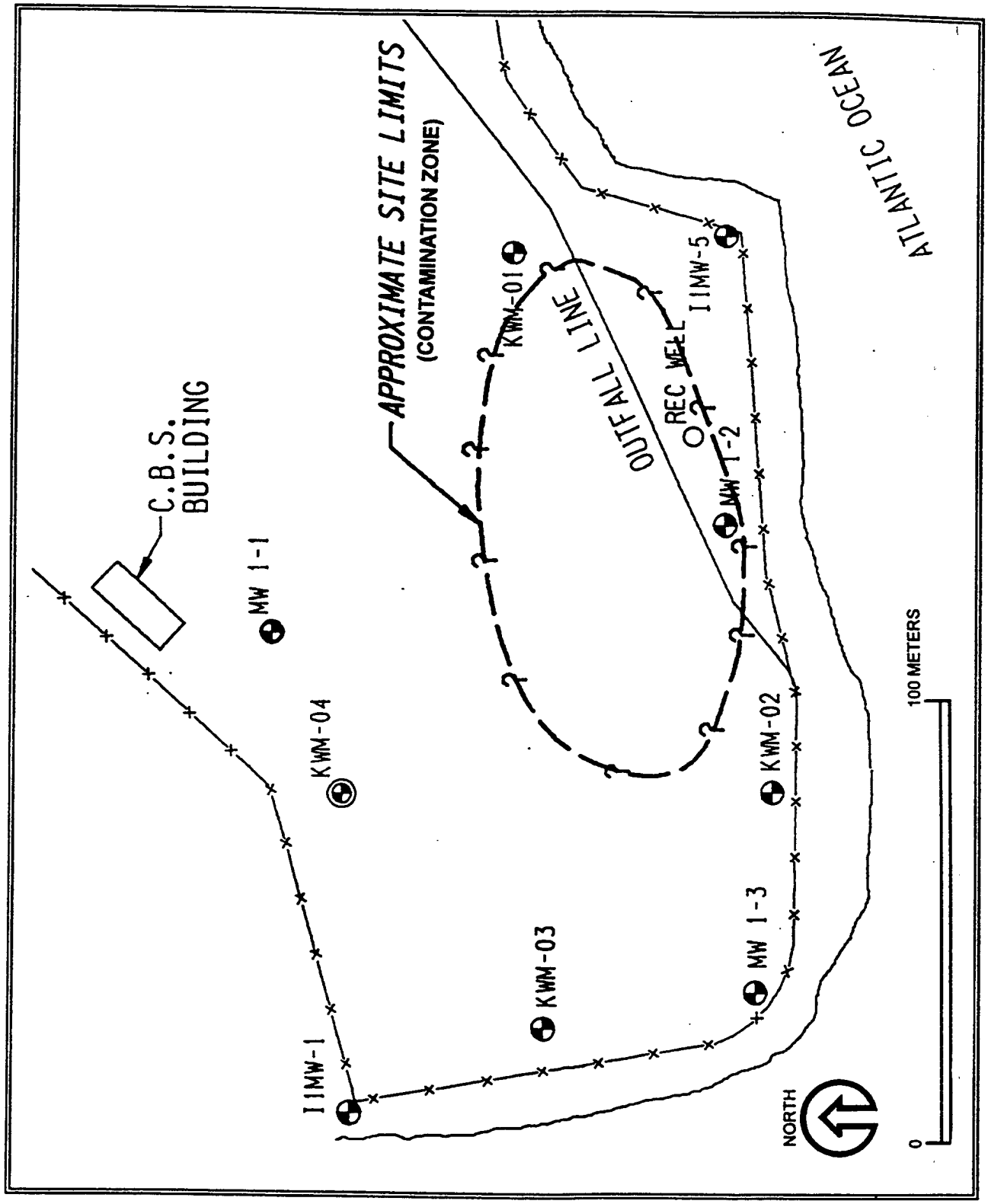


Figure 35. Whitehead Spit Contamination Cleanup Area.

For the rest of Truman Annex, 50 by 50 cm units were judgmentally excavated to confirm the presence of fill and to insure original land surface layers do not exist. During the examination of the rest of Truman Annex, 22 50 by 50 cm units were excavated. No artifacts or subsurface archaeological features were recovered in any of these units, and no further archaeological cultural resource management is recommended for Truman Annex (with the exception of Fort Taylor and Whitehead Spit, discussed above).

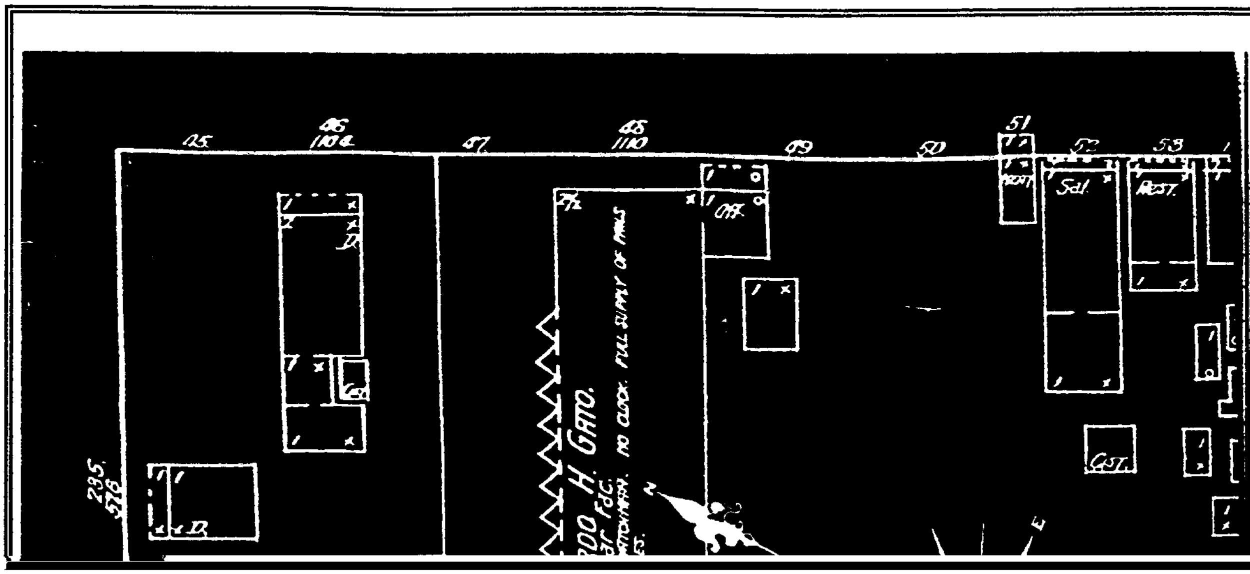
White Street Trailer Park

Examination of project and historic maps show that the White Street Trailer Park tract is near the area which was once known as "The Pond," which was filled in the 1850s to 1870s. The Pond area and surrounding vicinity was subsequently developed in the 1880s and 1890s. Presently, numerous housing trailers are densely packed on the small parcel, leaving little room for archaeological investigations. Two 50 by 50 cm units were selectively excavated between the trailers at each end of the tract.

Instead of being an area of fill, it was soon found that the White Street Trailer Park tract has no soil at all. The units could not be excavated because the oolite formation is present under the sod, about three centimeters in depth. The tract has very low archaeological potential. No further cultural resource management is recommended for the White Street Trailer Park parcel.

Commissary Building

Archival research indicated potential for late nineteenth century residential archaeological features at the Commissary Building. In 1871, Eduardo H. Gato bought several lots comprising most of the present project tract and constructed the Gato Cigar


46
1106
47
48
1110
49
50
51
53
Sal.
Rest.
Off.
H. GATO.
NO CLOCK. FULL SUPPLY OF PAILS
235
578
N
E

factory. The wooden factory building burnt after World War I, and the present building was reconstructed in concrete in 1922. The rebuilt Gato factory is shown in the 1926 Sanborn map (Figure 37). The Navy subsequently purchased the property and converted it into a commissary.

The small area surrounding the commissary building is completely paved over with asphalt. Since shovel test or 50 by 50 cm unit excavation was not possible, three backhoe trenches were dug to determine if subsurface archaeological deposits are present. Trench 1 was excavated perpendicular to Virginia Street (Figure 38). The trench extended 60 cm to the oolite formation (Figure 39). No artifacts or archaeological features were recovered from Trench 1. Trench 2 was dug adjacent to Amelia Street (see Figure 38). The trench

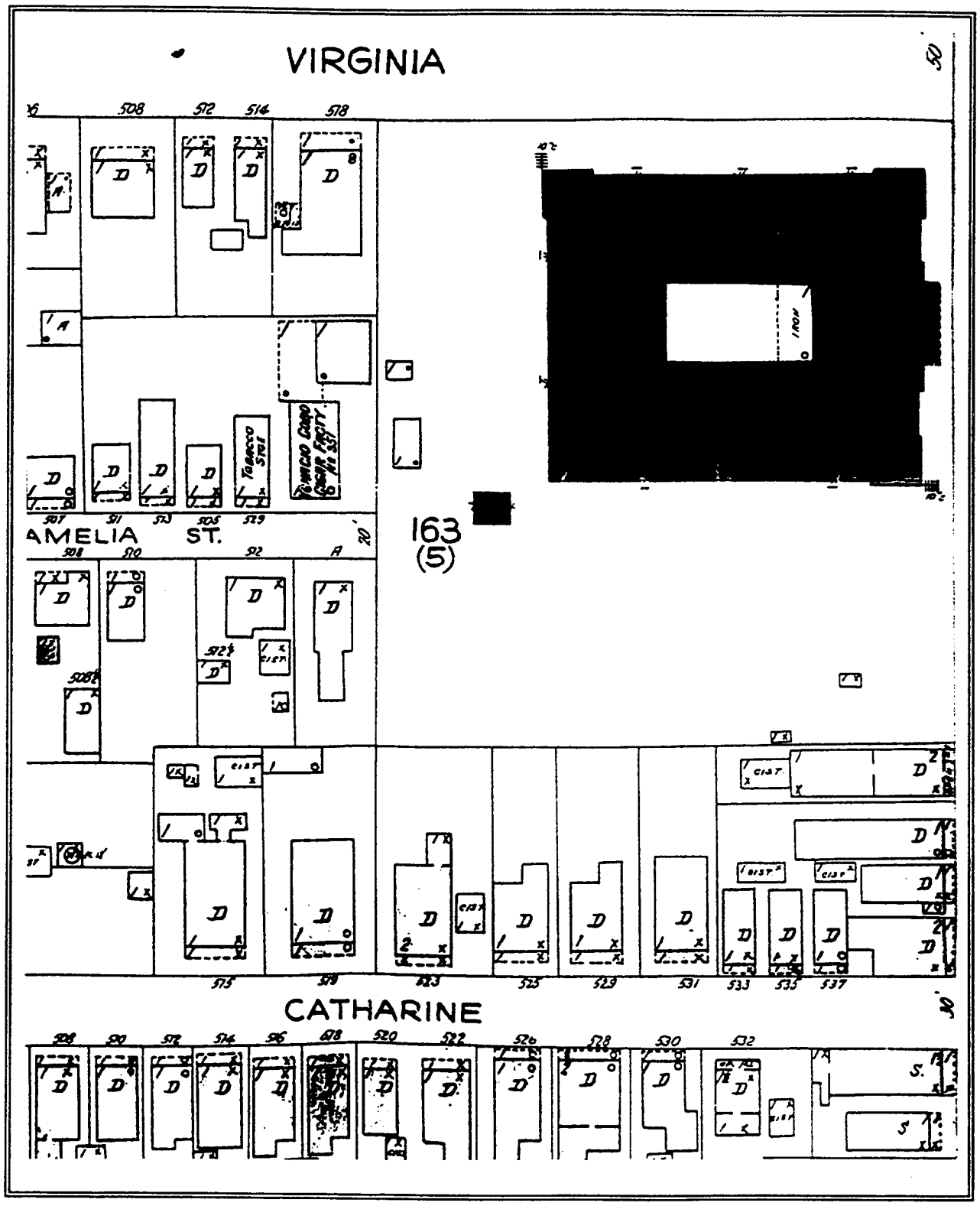


Figure 37. 1926 Sanborn Map showing Rebuilt Gato Cigar Factory (Commissary).

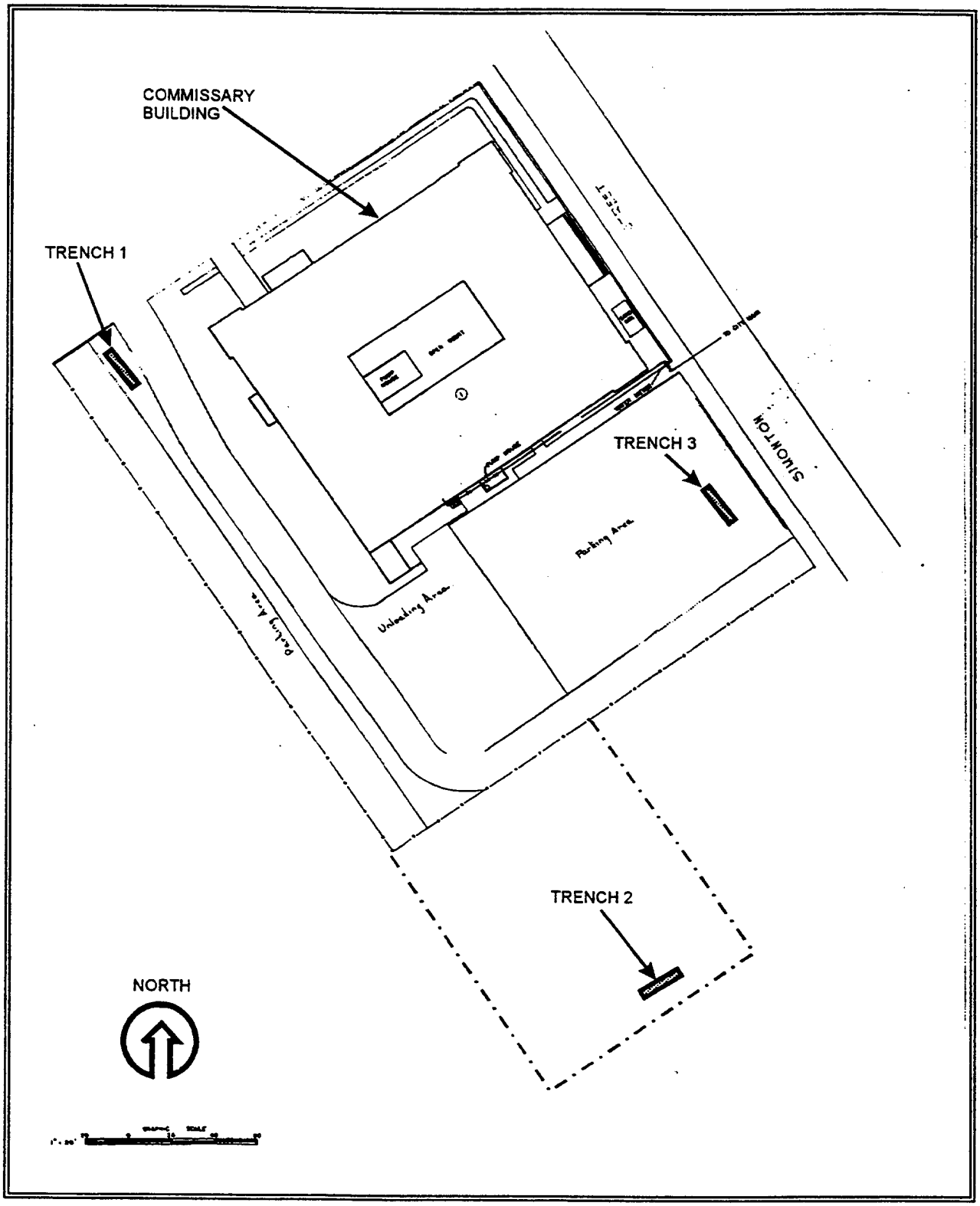


Figure 38. Backhoe Trench Locations, Commissary Tract.

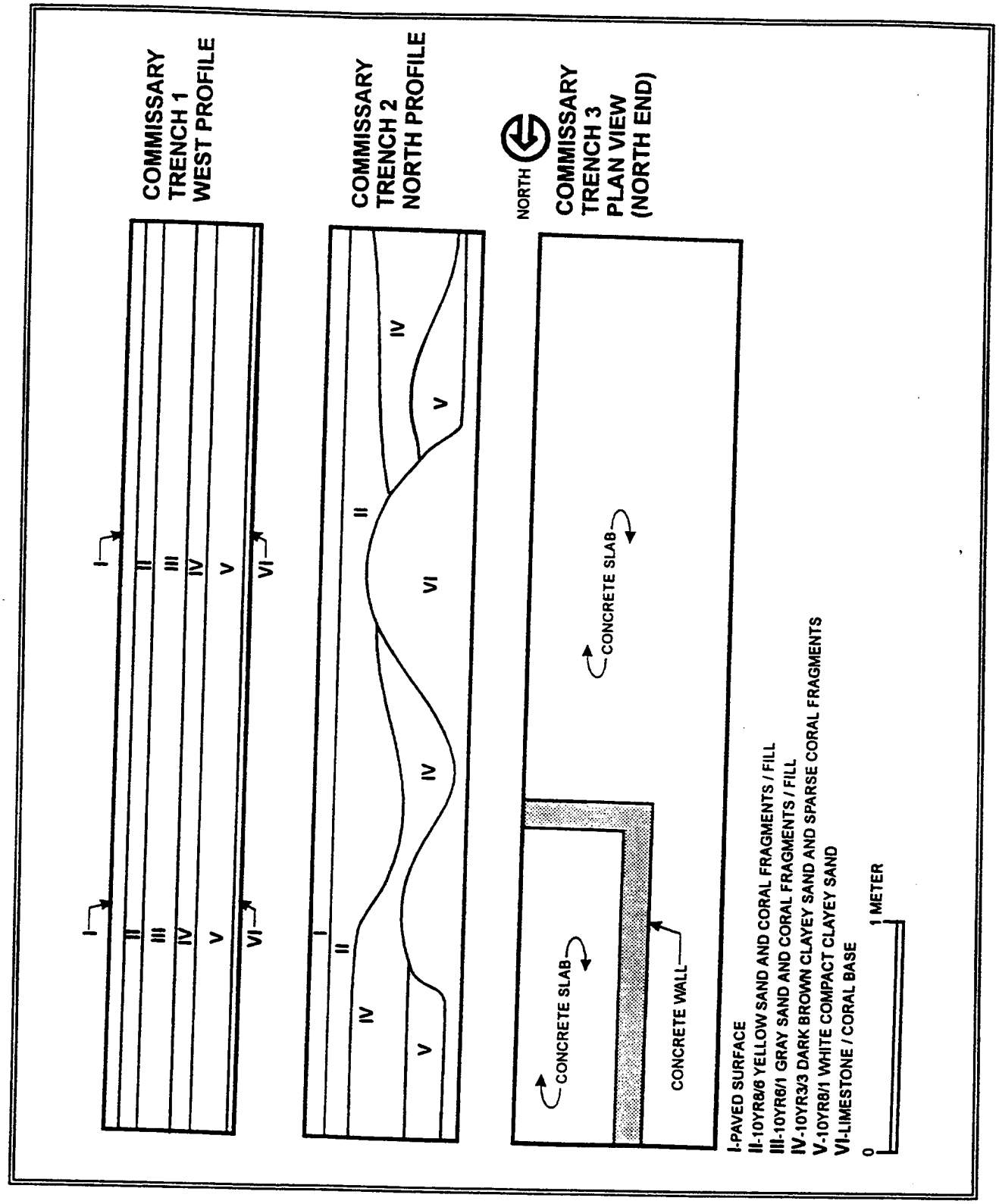


Figure 39. Commissary Tract Backhoe Trench Profiles.

East Martello Battery

The East Martello Battery (not to be confused with the nineteenth century East Martello Battery which serves as a museum and popular tourist attraction) was constructed in 1942/1943 to help protect Meacham Field (now Key West International Airport). The battery was built on fill in a tidal flat. There is no potential for significant subsurface deposits, except perhaps for World War II era remains. Visual reconnaissance was utilized and shovel tests were selectively excavated in undisturbed areas to locate any significant World War II archaeological deposits (trash dumps, etc.) that might be present. A bunker

[redacted]

were identified during the survey. No further archaeological management is recommended for the East Battery tract. However, the East Martello Battery building has been previously evaluated as eligible for the NRHP under Criterion C, and specific architectural management recommendations have been made concerning the building's preservation and

during the survey, and no further archaeological cultural resource management is recommended for the Poinciana Housing.

V. MANAGEMENT RECOMMENDATIONS

INTRODUCTION

The archival research and present archaeological investigations revealed an overall low archaeological potential for the Naval Air Station, Key West. Management recommendations for archaeological sites and areas with high archaeological potential are specified in the following discussion. Outside these areas, it is recommended that no additional archaeological cultural resource management is necessary.

The archival research and present archaeological investigations revealed an overall low archaeological potential for the Naval Air Station, Key West. Management recommendations for archaeological sites and areas with high archaeological potential or specified in the following discussion. Outside these areas, it is recommended that no

effort by staff from the Navy Historical Center in Washington D.C. to relocate the underwater site was unsuccessful. Navy resource managers and the Florida SHPO requested management recommendations be made concerning 8MO1448. It is considered most important to relocate the site, to accurately record its location using the Geographical Positioning System (GPS), and to evaluate the site's significance as related to the NRHP. A Historical and Archaeological Protection (HARP) plan is currently being revised for NAS Key West. More specific long term management recommendations will be made in that document. It is recommended that staff from the Florida SHPO, Navy Historical Center, and Army Corps of Engineers Mobile District discuss this matter and reach viable management options for this site.

8MO1477

The function of 8MO1477 could not be determined at the archaeological survey level. The small mound may simply be a bulldozer pushpile, or could be a burial mound like those described at 8MO1267. The principal investigator believes the mound most likely represents a late nineteenth/early twentieth century fresh water well. Site 8MO1477 is recommended potentially eligible for the NRHP. The site should be preserved in place. If physical impacts are planned in this area in the future, archaeological testing should be conducted to determine the function of the site and make a final NRHP evaluation.

8MO1478

Site 8MO1478 is a late nineteenth/early twentieth century housesite. Intact surface and subsurface archaeological features are present. Site 8MO1478 is recommended eligible for the NRHP. It is recommended that the site be preserved in place. Site 8MO1478 should be incorporated into a long-term preservation plan, and care should be taken to avoid physical impacts to this site in the future.

8MO206

Site 8MO206 is Fort Taylor, located on state property at the southwestern end of Key West. This report has documented that a large sand coverface was completed in 1866 and was an integral part of the fort. The coverface is now filled over and is entirely within the Navy property at Truman Annex. Archival information indicates that subsurface rooms were built into the coverface, which might now be present as large archaeological features. The precise location of these features cannot be determined purely by archival information or examination of historic maps.

Even though subsurface room features were not identified during the present archaeological investigations, the archival research showed that intact subsurface deposits may nevertheless be present within the coverface area. Accordingly, the site boundary of 8MO206 was expanded to incorporate the subsurface coverface area. Fort Taylor has previously been listed on the NRHP under Criteria A (significant events) and D (archaeological potential). However, the full extent and significance of the archaeological deposits in the coverface is not yet known. Phase II testing is necessary to determine the nature of these deposits. This area is actively used by the Navy as warehouse storage, and there is potential that these deposits could be inadvertently impacted by routine military activities. To avoid this threat, it is recommended that intensive archaeological testing be conducted before any subsurface activities occur in this area. It should be noted that this

this area, and replaced with non-toxic fill. Two Civil War-era cannonballs were recovered by heavy equipment operators during this procedure.

Considering the amount of filling that has occurred at Key West throughout the nineteenth and twentieth centuries, there remains high potential for significant intact subsurface archaeological deposits below the two foot mark. No specific archaeological testing is recommended for this area. It is recommended, however, that an archaeologist be present during future contamination cleanup efforts, or other projects which involve subsurface disturbance in this area.

REFERENCES CITED

Anderson, David G.

1990a A North American Paleoindian Projectile Point Database. *Current Research*

1990b The Paleoindian Colonization of Eastern North America: A View from the Southeastern United States. *Research in Economic Anthropology.* 5:163-216.

Artman, L.P., Jr.

1987 *Key West History*. Privately Published, Key West.

Baugher-Perlin, Sharene

1982 Analyzing Glass Bottles for Chronology, Function, and Trade Networks.

Bethel, Rod

1990 *Flagler's Folly: The Railroad that went to Sea and was Blown Away*. Self published, Key West.

Browne, Jefferson B.

1973 *Key West: The Old and the New*. Facsimile reproduction of original 1912 edition with introduction and index by E. Ashby Hammond. University of Florida Press, Gainesville.

Butler, William B.

1987 Significance and Other Frustrations in the CRM Process. *American Antiquity.* 53:820-829.

Carbone, Victor A.

1983 Late Quaternary Environments in Florida and the Southeast. *Florida Anthropologist*. 36(102).

Carr, Robert S.

1981 Salvage Excavations at two prehistoric sites in Dade County, Florida. Paper presented at the 45th annual meeting of the Florida Academy of Sciences. Winter Park.

1986 Preliminary Report of Archaeological Excavations at the Culter Fossil site in Southern Florida. Paper presented at the 51st Annual Meeting of the Society for American Archaeology, New Orleans.

Carr, Robert S. and Patricia Fay
1990 *An Archaeological Survey of the Lower Keys, Monroe County Florida.* Archaeological and Historical Conservancy, Inc. Miami.

Clausen, Carl J., A.D. Cohen, Cesare Emiliani, J.A. Holman, and J.J. Stipp
1979 Little Salt Spring, Florida: A Unique Underwater Site. *Science.* 203: 609-614.

Cockrell, Wilburn A.
1970 *Glades I and Pre-Glades Settlement and Subsistence Patterns on Marco Island (Collier County, Florida).* Florida State University thesis, Department of Anthropology.

Cockrell, Wilburn A. and Larry Murphy
1978 Pleistocene Man in Florida. *Archaeology of Eastern North America.* 6:1-13.

Covington, James W.
1973 The Seminole Indians in 1908. *Florida Anthropologist.* 26:99-104.

Craighead, Frank C., Jr.
1971 *The Trees of South Florida.* The University of Miami Press. Coral Gables.

Delcourt, P.A. and H. R. Delcourt
1981 Vegetation Maps for Eastern North America: 400,000 B.P. to Present. In *Geobotancy II,* edited by R.C. Romans. Plenum Publishing Corporation.

Dolph, Frank B.
1956 *Dolph's Map of Key West Florida.* Published by Frank B. Dolph. Fort Lauderdale. Map on file at Florida Archives, Tallahassee.

England, Howard and Ida Barron
1977 *Fort Zachary Taylor: A Sleeping Giant Awakens.* Privately published, Key West.

Eyster, Irving
1978 Archaeological and Historical Survey of the Long Key Quarry. Typescript on file at Florida Division of Historic Resources, Florida. Fairbridge, Rhodes W. 1974 The Holocene Sea-Level Record in South Florida. In *Environments of South Florida: Present and Past.* Edited by Patrick J. Gleason. Miami Geological Society, Memoir 2.

1986 Archaeological and Historical Site Survey of Proposed Village at Key West Resort. Typescript on file at Florida Division of Historic Resources, Tallahassee.

Fairbridge, Rhodes W.
1974 The Holocene Sea Level Record in South Florida. *In Environments of South Florida: Present and Past.* Edited by Patrick J. Gleason. Miami Geological Society, Memoir 2.

Florida East Coast Railway (FECR)
1912 Key West Extension: Florida East Coast Railway. Reprinted information announcement. Originally published by Florida East Coast Railway.

Felton, James and Louis Tesar
1968 Archaeological Survey of the Lower Florida Keys, Phase I. Copes of field notes on file at the Archaeological and Historical Conservancy, Miami, Florida.

Gardner, William H.
1974 *The Flint Run Paleoindian Complex: A Preliminary Report, 1971-1973 Seasons.* Catholic University of America, Archaeology Laboratory. Occasional Paper Number 1. Washington D.C.

Garnett, Burt P., editor
1953 *The Martello Towers and the Story of Key West.* Key West Press.

Glasgow, T. Niles
1995 *Soil Survey of Monroe County, Keys Area, Florida.* United States Department of Agriculture, Natural Resources Conservation Service, Washington D.C.

Glassow, Michael

Griffin, John W.
1989 *The Archaeology of Everglades National Park: A Synthesis*. National Park Service, Southeast Archaeological Center, Tallahassee.

Langley, Joan and Wright Langley
1982 *Key West: Images of the Past*. Langley Press, Key West.

Muir, William D., Cory Malcolm, and David Moore
1991 Channel Wreck Interim Report. Submitted to United States District Court for the Southern District of Florida.

Mickler, J.R.
1945 *Key West in World War II: A History of the Naval Station and Naval Operating Base*. United States Navy, Key West NAS.

Milanich, Jerald T. and Charles H. Fairbanks
1980 *Florida Archaeology*. Academic Press, New York.

Nichols, Stephen
1989 *A Chronological History of Key West: A Tropical Island City*. Key West Images of the Past, Inc. Key West.

Nolan, Terence H., W.H. Shiver, and L.S. Nidy
1979 Cultural Resources Survey of Key West. Florida Division of Archives, History, and Records Management. *Bureau of Historic Sites and Properties. Miscellaneous Project Report Series 48.*

Parks, Pat
1968 *The Railroad that Died at Sea*. Langley Press, Key West.

Townsend, Jan, John H. Sprinkle, Jr., and John Knoerl
1993 *National Register Bulletin 36: Guidelines for Evaluating and Registering Historical Archaeological Sites and Districts*. National Park Service. United States Department of Interior, Washington, D.C.

U.S. Army Corps of Engineers, Mobile District
1991 *Archaeological and Historical Investigations for Proposed U.S. Navy Peary Court Housing Project, Key West, Monroe County, Florida.*

U.S. Army Corps of Engineers, Mobile District, continued.

1995 *An Architectural Inventory Naval Air Station Key West, Key West, Florida.* Prepared by U.S. Army Corps of Engineers Environmental Resources Planning Section, Planning and Environmental Division. Mobile District, Alabama.

1996a *Phase One Archaeological Survey and Architectural Inventory. U.S. Naval Branch Medical Clinic, Key West, Florida: Volume I - Archaeology.* Prepared by the Mobile District, US. Army Corps of Engineers, Environmental Resources Planning Section.

1996b *Phase One Archaeological Survey and Architectural Inventory. U.S. Naval Branch Medical Clinic, Key West, Florida: Volume II - Architecture.* Prepared by the Mobile District, US. Army Corps of Engineers, Environmental Resources Planning Section.

White, William A.

1970 *The Geomorphology of the Florida Peninsula.* Florida Geological Survey, Bulletin 51. Tallahassee

Windhorn, Stand and Wright Langley

1973 *Yesterday's Key West.* Langley Press Inc. Key West.

1974 *Yesterday's Florida Keys.* Langley Press. Key West.

APPENDIX A: ARTIFACT CATALOG

BROCKINGTON AND ASSOCIATES, INC. USES THE FOLLOWING PROVENIENCING SYSTEM.
Prov. 1 Designates General Surface Collection.
Numbers after the decimal designate subsequent collections.

Prov. 2 to 200 Designate shovel tests.
2.0 designates surface at that shovel tests.
2.1 designates level 1 of a shovel test.
2.2 etc... designates other levels of a shovel test.
Controlled surface collections and 50 x 50 cm units are also designated by these numbers.

Prov. 201 to 400 designate 1 x 1 m units done for testing purposes.

Prov. 401 to 600 designate 2 x 2 m units done for data recovery.
Numbers after the decimal designate levels. Also flotation is designated by 01 added after the last number. For example unit 401.4 is unit 401, level 4. 401.401 designates the flotation from unit 401, level 4.

Prov. 601 and over designate features. Numbers after the decimal designate levels.

The first column gives the provenience:catalog number. The second column gives the count. The third column gives the weight in grams, when applicable. Residual sherds are prehistoric ceramic sherds that are less than one inch in diameter and cannot be precisely identified as to surface treatment.

Table of Contents

SITE NUMBER : 8MO206

Provenience #	1.1000		Description : Trench 1
1.1000:1	50		clear bottle glass, one bottle, 3 part dip mold, 1821-1860
1.1000:2	1		iron musket barrel
1.1000:3	1		large unidentified iron object
1.1000:4	1		dark olive green bottle glass base

Provenience #	1.2000		Description : Trench 2
1.2000:1	1		aqua bottle glass base
1.2000:2	1		clear bottle glass, champagne lip, rectangular base, embossed,"Planter Rye Registered, Ullman & Co. Cinn O, mold made, whole
1.2000:3	1		light green flat glass
1.2000:4	2		ceramic roofing tiles
1.2000:5	2		unidentified iron objects
1.2000:6	1		large iron screw, 9 inches long
1.2000:7	1		large iron bar fragment, 9 inches
1.2000:8		560.2	knobbed whelk
1.2000:9		12.6	faunal

SITE NUMBER : 8MO1478

Provenience #	1.0		Description : Surface near Test Unit 202, 40m S of cistern
1.0:1	1		light green mold made bottle, 40%, embossed "CCCo Conrad & Co. GINALWEISER TENT No 6876", Toulouse 1876-1883
1.0:2	1		light blue mold made bottle, 35%, embossed "CCCo OR BUDWE US PATENT No. 6876", Toulouse 1876-1883
1.0:3	1		olive green bottle glass neck, blob lip
1.0:4	1		dark olive green bottle glass neck, applied lip
1.0:5	1		amber bottle glass neck, applied lip

Provenience #	1.1000		Description : Bocha Chica, surface, 15m N of cistern
1.1000:1	1		dark olive green turn paste mold bottle glass with etching, 98%
1.1000:2	1		amber glass bottle glass, 100%, mold made, embossed "R & Co 10" 1880-1900 Toulouse
1.1000:3	1		olive green bottle glass, 100%, mold made, large mouth external neck
1.1000:4	1		olive green bottle glass, mold made, wine neck, 100&
1.1000:5		459.9	knobbed whelk
1.1000:6	22		amethyst glass jar, mold made, embossing, all mend

Provenience #	201.1000		Description : Test Unit 201, level 1
201.1000:1	1		undecorated ironstone
201.1000:2	1		molded porcelain with maker's mark "Theodore Lim Fra T H", Kovel pg. 213P
201.1000:3	1		unidentified iron fragment
201.1000:5	1		dark olive green bottle glass neck, flattened blob
201.1000:6		0.4	marine snail, univalve gastropod
201.1000:7		1.0	charcoal

Provenience #	202.1000		Description : Test Unit 202, level 1, 0-14cm, 50x50cm, 40m S of cistern
202.1000:1	12		dark olive green bottle glass, one bottle, one piece embossed "BERGH & Co."
202.1000:2	1		light blue bottle glass neck fragment
202.1000:3		23.7	building stone